Policy Analysis for California Education (PACE)

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Conditions of Education in California 1990

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Policy Analysis for California Education

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Policy Paper No. PP91-4-1
Policy Analysis for California Education (PACE)
Berkeley, California
April 1991

This publication was produced with Apple Macintosh IIcx computers and an Apple LaserWriter IIntx printer. The equipment was donated to PACE by Apple Computer, Inc..

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Foreword

This is the sixth edition of *Conditions of Education in California*. It is the most extensive and inclusive yet. In addition to chapters on enrollments, curriculum, governance, human resources, student performance, and finance, this year's Special Feature is a report of a PACE public opinion poll on California education.

This publication is based upon compilations and syntheses of information collected by other agencies and individuals. These sources are noted throughout the text. We wish here to express our appreciation to these others, upon whose efforts we depend so heavily. Also, PACE undertakes a substantial amount of original data collection and analysis. We make specific mention of this throughout the text also.

Over time, the content and format of this publication have changed, in keeping with suggestions made by readers. Again, we welcome your comments.

James W. Guthrie   Michael W. Kirst   Allan R. Odden

Policy Analysis for California Education

Policy Analysis for California education, PACE, is a university-based research center focusing on issues of state educational policy and practice. PACE is located in the Schools of Education at the University of California at Berkeley, Stanford University, and the University of Southern California. It is funded by the William and Flora Hewlett Foundation and directed by James W. Guthrie, Michael W. Kirst, and Allan R. Odden. PACE also operates a satellite center in Sacramento.

PACE efforts center on five tasks: (1) collecting and distributing objective information about the conditions of education in California, (2) analyzing state educational policy issues and the policy environment, (3) evaluating school reforms and state educational practices, (4) providing technical support to policymakers, and (5) facilitating discussion of educational issues.

The PACE research agenda is developed in consultation with public officials and staff. In this way, PACE endeavors to address policy issues of immediate concern and to fill the short-term needs of decision-makers for information and analysis.

PACE publications include Policy Papers, which report research findings, and the Policy Forum, which presents views of notable individuals. The analyses and conclusions in these publications are those of the authors and are not necessarily endorsed by the Hewlett Foundation.

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Chapter 1

The Evolving Context of California Education

DEMOGRAPHY, ECONOMICS, AND POLITICS SIDETRACK STATEWIDE EDUCATION REFORM

HIGHLIGHTS

- Enrollment growth far exceeds predictions.
- National and state economic recession triggers major state education revenue reversals.
- Populist ballot initiatives greatly intensify political conflict over education policy.
- Despite demographic, economic, and political impediments, education reform inches forward at the local level.
- Debates over Proposition 98 are impeding state-level consideration of education reform.
- PACE offers a ten-point plan to advance revitalization of California education.

Many of the major problems faced by California's education system originate outside the schoolhouse walls. Public schools are pinned inside an iron triangle of shifting demographics, declining economics, and intensifying politics. The historic escape route, local decision initiatives and property taxation, has been substantially narrowed by populist initiatives such as Proposition 13 and the Gann limit.

Examples of excellence and professional commitment persist in various local school districts and previously enacted state initiatives. Under current circumstances, however, it is unlikely that California can create and sustain a statewide education system capable of satisfying the intensified expectations of the twenty-first century. Too many components of a comprehensive reform plan remain unfulfilled.

Education improvement is becoming entangled and confused with political conflict over Proposition 98, which is primarily a revenue earmarking device and only secondarily a school reform plan. This troublesome situation begs for a responsible political solution every bit as much as another technical set of educational reform provisions.

This chapter contains a description and analysis of the interrelated set of problems and offers a comprehensive set of suggestions for overcoming this condition.

Background

California's public schools are coping with staggering rates of enrollment growth, operating with substantially reduced revenues, and being subjected to an intensified political pincer movement. These three conditions, when taken together, are eroding the progress of the education reform movement that began in 1983. Eight years of slow, but steady, statewide educational improvement is virtually on hold while public schools await the actions of the political system in sorting out what threatens to become a policy gridlock.

A combination of important events previously contributed to a massive and energetic statewide education improvement effort. In 1982, Superintendent of Public Instruction, Bill Honig, successfully sought office on a platform emphasizing the need to improve public education. He ran a spirited campaign which galvanized public support for school reform.

Shortly after his 1983 inauguration, the National Commission on Educational Excellence issued *A Nation at Risk*, a shrill call for public attention to the United States' declining system of public schooling. The California legislature and governor responded in 1983 by enacting Senate Bill 813, California's omnibus education reform act.

The early portion of the reform effort, embodied primarily in SB 813, involved a series of policy changes intended to make California's public schools more rigorous. High school graduation requirements and college entrance standards were intensified, the school year and school day were extended, textbooks were improved, more homework was expected, and more tests were mandated. Reforms were not particularly imaginative, but they seemed sensible. They compensated for what was widely perceived as a drift in expectations and slackening of performance standards during the 1960s and 1970s.

By the mid-point of the 1980s, it was widely agreed that the level of school improvement that was going to be necessary to regain California's competitive edge in the new global economy would require more than simply intensification efforts. Consequently, additional proposals were made on a number of policy fronts. The "second wave" of reform, as analysts came to label it, involved efforts to professionalize teaching, improve the quality of the subject matter presented to students, and expand the range and improve the coordination of social services available to students. This last effort was argued for on grounds that large numbers of children and youth came from home and neighborhood circumstances that impaired their health and social development and rendered them incapable of fully benefitting from school.

The second reform wave was never fully implemented. Indeed, many of the ideas are still awaiting official approval. Nevertheless, beginning with SB 813 and continuing until 1989, state government annually contributed added resources for schooling. Education spending increased in both nominal and real dollars, the purchasing power of schools improved, and teacher salaries increased substantially.

School performance also registered favorably. More students stayed in school, attended more classes, enrolled in more rigorous courses, and scored higher on tests. Almost everyone wished for more, but evidence suggested that California's complicated system of public schooling was responding to reform efforts.

In 1989 reform progress began to falter. State and local budget woes became more evident, political bickering became more strident, reform coalitions began to dissolve, teacher unions began to set themselves apart from other public sector activities, higher and lower education interest groups found themselves on opposite sides of significant policy issues, and evidence of studen‑ ‑erformance improvement became more scarce. Something was awry.

A New Unholy Alliance

In fact, more than one thing was awry. A confluence of pressurized demographic, economic, and political streams was erupting in schools and eroding the ability of state government to lead, and local districts to respond to, reform expectations. The force and magnitude of these social streams has been building for three years. By 1991, public officials and professional educators are sorely challenged to solve California's fiscal and political problems and return education reform to a productive channel.

The problems are tightly intertwined, and nowhere as simple and separable as the subsequent descriptions and analyses suggest. Nevertheless, the three fundamental components—demographics, economics, and politics—operate as follows.

Demographics

Virtually unmatched enrollment waves are inundating many of the state's public school systems and creating ever larger demands for more buildings, more teachers, more books and supplies, and more money.

California's post–World War II baby boom enrollments peaked in 1971. For the next twelve years enrollments dropped, school districts shrank, schools closed, fewer new teachers were employed, and educational administrators assumed a siege mentality. However, by 1983 live births began to increase, the so-called baby boom echo, and in-migration began to climb. California's second post–World War II population boom was beginning in earnest.

Mid-1980s projections suggested that school enrollments would average 140,000 new students a year and that California consequently would need to employ 16,000 new and replacement teachers annually. Of course, new school buildings would also be necessary.

By 1989 it became painfully evident that almost every enrollment projection was too conservative. Enrollments, particularly in the Los Angeles basin and the Central Valley, were burgeoning far faster than predicted. Indeed, California's public schools had a million more pupils in 1990 than a decade before. Enrollments were increasing so rapidly that by 1991 the state needed to build a new school every day, seven days a week, holidays included, simply to stay even with the influx of new students. The number of new teachers needed was also far higher than had been predicted.

The challenge to public schools was not in large numbers alone. The new enrollees were different. They needed more school services and school services which were more expensive. Larger numbers of them entered school with health problems. Indeed, some of them suffered from disorders and diseases barely known or thought about even a decade before. One out of four students came from a poverty household One out of six came from family circumstances where English was not the native language.

Of course, these new students did not conveniently show up for schooling in districts which had surplus classrooms or under-enrolled classrooms. Rather, the new students frequently were born in or moved to parts of the state that were growing economically and that had not been particularly plagued with 1970s enrollment declines.

Economics

New students entail added costs, and these new fiscal demands coincided with an unfortunate downturn in the nation's and the state's economy.

California does not spend a great deal per student, at least in comparison with the national average per-pupil expenditure, and particularly not much when compared with high-spending states such as New York and New Jersey. Nevertheless, even if relatively inexpensive, there are such large numbesr of new pupils involved that the aggregate added costs are awesome.

Simply to supply new students with a teacher, textbooks, transportation, supplies, and the other common fundamentals of schooling results in an added annual cost to the state of $1 billion. Attempting to keep school revenues even with inflation, a condition California has failed to achieve in the past two years, necessitates an additional annual cost of another $1 billion.

The result is that California doubled its school spending between 1980 and 1990. By 1991, the state was allocating approximately $25 billion for public school support. One out of every eight school dollars raised in the United States was being spent in California, and the state was not even staying abreast of inflation.

These fiscal figures, as huge as they may seem, do not include the costs of school buildings. California has an unusually complicated set of arrangements for financing public school construction. The burden of facilities financing is borne primarily by state funding, unlike most states which rely upon locally imposed property taxes to build and operate schools. Annually Californians have been called upon to approve billions of dollars in state-backed school construction bonds. The public has generally been generous on this dimension. Nevertheless, the statewide school construction backlog now stands in excess of $10 billion. No one knows from where the money will come.

As if the fiscal condition were insufficiently troublesome, beginning in 1989 state revenues began to fall below state spending levels. Former Governor George Deukmejian and the legislature wrangled mightily over the matter and eventually engaged in sufficient fiscal legerdemain to balance the budget. Nevertheless, each year's budget process became more protracted and polemical.

By 1990, retail sales, defense spending, housing starts, commercial construction, auto purchases, and an assortment of additional fundamental economic components all evidenced decline. Agricultural crops were badly damaged by freezing weather and the state was braced for its fifth year of drought conditions. Incoming Governor Pete Wilson faced the unenviable challenge of restructuring a state budget which was claimed to have a $6 billion deficit when he was elected and which had ballooned to a $10 billion shortfall by the time he was inaugurated in January of 1991.

By the spring of 1991 California's public school districts had been told to expect revenue reductions of 7 to 8 percent from what they had received the prior year. This was in addition to 1990's 5 percent inflation which they would simply have to absorb. By March 15, 1991, layoff notices were being sent to teachers and administrators throughout the state.

Politics

Education is important to individuals, their families, and to the overall society. Thus, even in stable and calm settings, the very significance of the undertaking, cutting as it does to the core of society's values and future hopes, can trigger intense political consideration. When the undertaking involves thousands of employees, millions of clients, and billions of dollars, the politics become thicker yet.

However, it is not simply huge and unexpected enrollment growth or awesome budget amounts and deficits which are provoking political debate about California education. These conditions also prevailed in the immediate post-war period and the state coped with growth without engaging in today's partisan political controversies and acrid interest group infighting. What has changed?

The answer to this question comes in large measure from political history. Specifically, the populist politics of the late 1970s have spawned a large portion of today's conflict over schools. The dynamics are as follows.

Throughout the 1970s, California's property tax burdens climbed. Local boards of education, as well as other local agencies, took advantage of rapidly rising housing values and generated large amounts of local revenue. This was true for schools even though enrollments were stable or declining.

Public pressures grew for tax relief, but elected officials, both local and state, were insufficiently alert to the signals. This political numbness created an opening for populist organizers such as Howard Jarvis and Paul Gann. Artfully calling upon low budget campaign techniques, e.g., nighttime radio talk shows, they stealthily created a wave of popular support for a statewide ballot initiative, Proposition 13.

On June 6, 1978, Proposition 13, a constitutional amendment restricting property taxation to one percent of market value, was enacted by a stunning 68 percent of the voters. Huge numbers of home owners, including public employees, voted what they thought was their economic self-interest. Their predilections were reinforced when then governor, Jerry Brown announced two weeks before the election that the state had a huge budget surplus which could be redeployed to subsidize the loss of local property tax revenue.

Thanks to the governor's little known and tardily announced state-level budget surplus, 1979 public spending actually increased a few percentage points. The immediate fiscal impact of Proposition 13 was blunted for schools. What emerged, however, was far more consequential than either Proposition 13's proponents or detractors had anticipated.

Proposition 13 virtually ended the ability of local officials to generate revenue and tailor local services to the needs and preferences of their constituents. This was particularly dramatic for schools. Proposition 13 overnight moved California from an amalgam of state authority and local policy discretion to a state-dominated public education system. *From now on, education problems were state problems and education politics were largely state politics.*

Jarvis, Gann, and their supporters were mightily buoyed by Proposition 13's landslide victory. They were further moved to limit taxes. In the subsequent year, 1979, by use of the ballot initiative, they gained enactment of the so-called "Gann Amendment." This constitutional amendment employs a complicated formula to limit state spending to levels consistent with population growth and inflation. In effect, what the state spends can increase only if the population grows and inflation continues.

California became the only state which simultaneously restricted local property taxation and state-level general revenues. The size of the state revenue pie became relatively fixed. Advocates of new programs could not automatically assume that state revenues would increase. Not only would school politics become primarily state politics, now education advocates were pitted against other interests to determine education's share of the budget. Political conflict was intensified yet another notch.

A decade later, educational interests were tired of always having to compete for what they believed was a badly needed state service. The enactment in 1986 of a statewide lottery, which most education interest groups had opposed, was proving a colossal school funding failure. Moreover, public opinion polls reinforced professional educators' position. Then, as now, the electorate held the view that schools deserved more money. Of course, there is a certain irony here. Public opinion polls then, and now, reveal citizen unwillingness to have taxes increase.

The California Teachers Association (CTA) solved a three-way dilemma. If voters were unwilling to increase the overall size of the state revenue pie, if the Gann Amendment prevented state taxes from being raised, and if Proposition 13 kept local jurisdictions from levying property taxes, then at least education's share of the state revenue pie could be assured. Better yet, if the state budget grew, then perhaps education's share could automatically grow, too.

The apparently brilliant political solution was a page out of the Jarvis-Gann populist electoral manual: "If you can't beat 'em, join 'em." A new ballot initiative, Proposition 98, was framed and supplied with awesome financial and political backing by the CTA. This constitutional amendment preserves a fixed portion, approximately 42 percent, of the state budget for K–12 and community college education. It was what educators wanted, or at least what CTA educators wanted. It was apparently what the public wanted, too. In 1988, Proposition 98 won. The hope was that public schools would no longer have to engage in intense, and demeaning, politics to ensure that school children and schools received the revenues they needed, and the public wanted them to have. In the eyes of its proponents, Proposition 98 would restore dignity to education. Wrong!

In another time, Proposition 98 might have proved a great success for California education, or at least its advocates. If the state's and the nation's economy had not turned sour, if the Gann limit did not restrict taxes, if enrollments were not growing so rapidly, if other public services were not so needy, then perhaps earmarking a share of the state's budget for public schools would have proven palatable to other political interests. However, the world of politics is ultimately real, not hypothetical, and all the above-listed "ifs" proved false.

By spring of 1991, public education found itself in a fixed battle with virtually every other political interest. The new governor wanted to suspend the provisions of Proposition 98 in order to balance the budget and allocate more revenue to activities in addition to education. Public employee unions wrote the governor a public letter endorsing his Proposition 98 suspension plan. A coalition of private-sector, higher education, and health care interests also sided openly with the governor.

The CTA found itself backed into a political corner and ever harder pressed for allies. It increasingly was the target of political opposition. What began as an effort to remove education from the hurly-burly of political controversy, Proposition 98, was having an opposite effect. Those sitting on the sidelines sometimes were ambivalent. They may well desire that public schools have more resources, but they are hard pressed to see why schools should hold a privileged position over other badly needed public services.

Other conditions rendered education politics no less controversial. The superintendent of public instruction, Bill Honig, and the Deukmejian-appointed state board of education were sniping at each other, and the superintendent's wife's education reform projects were caught in the political cross-fire. The legislature had only half an eye focused on education while simultaneously jockeying for forthcoming reapportionment advantages.

On balance, these events did not create an environment conducive to state school reform leadership or local school district fellowship.

How Did They Solve Similar Problems in the Past?

One must always be careful in reflecting upon the past. It is altogether too easy to conjure a favorable image in the absence of the pressures and conditions that previously existed. Nevertheless, one past condition does emerge as worthy of extrapolation.

The period following World War II also experienced dramatic enrollment increases and the need for new teachers and buildings. Public officials of that time met these demands and simultaneously preserved a public school system which was known nationally for its high standards. Indeed, public education then served as a magnet to draw millions to California in pursuit of the American dream. What was different?

Probably many conditions were different. Principal among them, however, was the ability of local officials to respond to local conditions. They had revenue discretion. Of course, it is not all that simple. The state generally had to cope with far less complexity and population diversity. Also, the charter to tax locally included the charter to spend unequally. School children, for no reason other than the accident of location, had good and bad schools. Equality suffered immensely. Still, education politics were chiefly local politics, and school funding was principally local funding. The system possessed problem-solving ability and resiliency that is now largely diluted.

But, So What? Who Cares?

According to recent opinion poll results (see Chapter 9), large segments of the public still care. Education issues continue to rank at or near the top of the public's list of state problems in need of a solution. Also, there is an answer to the "So what?" question.

Education reform, particularly the revitalization of a system the size and complexity of California's public schools, is a multi-step process. It cannot be conceived simply as either "bottom up" or "top down." It requires a vision of what the reformed system would contain in its entirety, a set of goals toward which to aim, a specified curriculum, means for measuring student performance progress, a strategy for improving textbooks, both preservice and inservice teacher training improvements, means for engaging employers and the public, and a plan for continually reassessing the progress of the endeavor. In 1983, principally through the efforts of State Superintendent Bill Honig and a select few legislators, components of such a vision were becoming clear. Senate Bill 813 was a vast step forward in specifying expectations and providing resources. However, important components of the reform vision have never been made clear to the public or to California's education professionals.

Not All Is Lost

The above-described demographic, economic, and political conditions are impeding full pursuit of education reform. However, they have not brought revitalization to a halt. A number of local and state-initiated changes are grinding forward and they appear to be having beneficial effects. It is important to acknowledge these undertakings because they currently are the major source of reform energy and hope. They also represent a crucial foundation upon which it is possible to build in the future.

The following list is illustrative; it is not intended to be exhaustive. Its purpose is to demonstrate that, even in the face of several adverse external conditions, school districts and state officials are persisting in their efforts to improve California schools.

Middle School Reform

Students in grades 6 through 8 represent a particular educational challenge. They have moved to a point where presentation of specialized subject matter in fields such as history, mathematics, and science is appropriate. On the other hand, they still can benefit from a degree of stability with teachers and a concern for human and emotional development.

Primarily because of state education department leadership and an unusually thorough change strategy, California leads the nation in attempting to implement a full and thoughtful slate of middle school education reforms. A large number of the state's middle schools are linked in a creative and mutually supportive change network which is proving that significant change can occur as a consequence of leadership and need not depend upon an intensive infusion of additional financing.

Textbook Improvement

California leads the nation in its persistent efforts to ensure that textbooks are of high quality. Sustained attention by a combination of state and local officials has led national publishers to pay far greater attention to the content of their products, to ensure that reading has become steeped in literature, that history is worth reading, and that science is rigorous.

Curriculum Improvement

Efforts to ensure that teachers have useful content to convey to their students have not stopped with textbook improvements. California has also led the way in reviving a rigorous school curriculum. One mechanism for this change effort has been the commissioning and publication of a set of first-rate curriculum guides for fields such as literature and history. These "curriculum frameworks" have been written by the nation's leading academic authorities, and they are simultaneously valid in terms of subject matter content and useful pedagogically.

Inservice Training

California has implemented thoughtful staff development efforts for English, science, and mathematics teachers. In fact, the inservice training strategy that has evolved is regarded by many as a model for the nation. The difficulty is that these endeavors are so woefully underfunded that they reach only a small fraction of the huge numbers of currently employed teachers who badly need this assistance in order to instruct more effectively.

Assessment

A statewide, or even local, school district education reform program is crucially dependent upon an assessment system. Moreover, such a system must be closely aligned with the education system's goals and the subject-matter curriculum being conveyed to students. California's Assessment Program (CAP) has long been regarded as the nation's leading state student performance appraisal effort. But all funding for CAP has been eliminated from the budget. The governor promises to replace CAP with a new assessment system, but, for the present, the state is without a student performance appraisal mechanism.

An Illustrative List of Missing Components

Goals. There has been insufficient public involvement in and persuasion about the goals of the public education system. If schools are to succeed in serving California's future needs, and in fulfilling the dreams of individuals, then a more complete set of expectations must be debated and agreed upon.

Pre-service Teacher Preparation. This is another area of serious oversight. Whereas the state's curriculum frameworks are among the most sophisticated in the nation, preservice teacher training efforts have been remiss in not conveying these curricular ideas to those who already do or who will in the future instruct in classrooms.

Inservice Teacher Preparation. The "right thing to do" is generally well known on this dimension. However, the financial wherewithall to accomplish these purposes is almost completely missing. Far fewer teachers are being retrained annually than is necessary. Successful private sector firms annually invest 3 to 5 percent of their payroll in staff training. California has not begun to mount a systematic human resource development effort of this magnitude.

Testing. An individual or a system that is unevaluated is out of control. By this definition, the public school system is out of control. Prior year budget cuts have severely jeopardized development and implementation of a complete state student performance assessment system. Well-laid plans have been set aside or placed on hold. The reform movement depends crucially upon the restoration of this effort.

What Is the Problem?

Why cannot more be done to make California public education better? The answers to this question are embedded in the problems of demography, economics, and politics described to this point. However, there is an additional difficulty—policy myopia. As public officials wrestle to balance the state budget, education reform increasingly is being defined as "Proposition 98." This revenue-earmarking device is assuming symbolic value as a litmus test of reform. Debate regarding the advantages and disadvantages of suspending its formula provisions threatens to overshadow the attention which is needed for longer run solutions. A larger context is needed.

Next Steps

What can be done to overcome the systemic problems imposed on California's education system by awesome growth, a sagging economy, and unproductive political conflict? How can a vision of an effective education system be restored and pursued? What next steps are in order?

What was once a highly prized statewide system of public schools, acting as a magnet to draw literally millions of new and hopeful residents to the Golden State, is now under continued siege. However, the situation is far from hopeless. The system can be revitalized sufficiently to enable California to generate the human capital necessary to compete in the new global economy. Doing so will require three qualities, all of which are usually in short supply: leadership, sustained commitment, and a comprehensive road map of reform.

The following suggestions are intended to provoke discussion about California education. They are not intended as a portion of a politically partisan policy platform. These proposals constitute an amalgam of ideas intended to benefit students. If in the process they are attractive to Democrats or Republicans, hopefully both, all the better.

A Comprehensive Attack on the Problem

What California needs is

- *a comprehensive education reform plan that is of sufficient scale to reach all school children,*
- *a sustained commitment to solving school problems, and*
- *highly visible leadership.*

A PACE Plan for California's Schools

In order to meet the challenges, PACE proposes a ten-point plan for revitalized education.

- **Set goals for California's schools.** The state needs a road map for schools. Citizens deserve to know what they will receive from their tax money; educators need to know what they are expected to accomplish; students need to know what they are expected to learn.

  In order to achieve consensus on a set of education goals, PACE proposes a Governor's Task Force on California education. The Task Force's principal mission would be to specify the major goals California expects its schools to accomplish by the year 2000. The Task Force should be representative of the state's citizens and should consult widely and hold public hearings.

  Once a set of educational goals has established new and higher standards for schools, public officials, educators, pupils, and the general public must commit themselves to the fulfillment of these goals. In addition, Californians will need to be informed regularly about progress in meeting these standards.

- **Provide a "Head Start" for all children.** The state must make it possible for every child, rich or poor, to benefit from schooling. It must build a system that will enable at least every 4-year-old, whose parents so desire, to attend preschool.
- **Break up bureaucracy.** Some of California's school districts and some of its schools are too large. Too much effort is spent on communication and coordination, leaving too little time, money, and energy for education. What the state must do is openly acknowledge that individual schools are the most important organizational link to students. It is at the school site that the state should center planning, direct resources, encourage instructors, develop leaders, and teach students.

  The way to empower schools and overcome inappropriate bureaucracy is to declare the school the primary unit for management and begin directing financing to the school site. Schools should become responsible for their budgets and accountable to their parents. California can build a system whereby dollars flow to schools, decisions follow the dollar, responsibility flows to teachers and principals, and benefits flow to students.

- **Create responsive and responsible schools.** Too many school reform efforts in California have been splintered, inconsistent, and unplanned. Moreover, they have not always been aimed in the right direction. To this point the notion of reform has been to pass another law, promote a new rule, require a new activity, complete another state-issued form, or enact another regulation.

California must unleash, not punish, the creative potential of professional educators, pupils, and parents. The right way to encourage results is to agree upon desired outcomes and a way of measuring results, ask that those responsible draw up a plan for achieving these ends, and then let those responsible for action act.

PACE proposes to achieve this goal by expanding the planning grants available to local schools to encourage cooperative efforts by educators and parents. Each school should be expected to develop a comprehensive five-year plan for achieving state and local goals. These plans should build on the unusually thorough state curriculum frameworks. Unproductive and outmoded rules and regulations should be stripped away to permit schools to pursue their plans. The state's role should be to provide advice and ensure high standards.

- **Coordinate social services for children.** Many of the children most in need education are least prepared to benefit from it because of an array of economic, health, and social problems. The dominant institution in the life of students is the school, yet most social services are the responsibility of other agencies. California needs to design a coordinated system for delivering non-education services to students, with the school as one of the centers of service delivery.
- **Enhance teacher expertise**. California has been a national leader in developing new curriculum concepts, but more staff development is needed if teachers are to be able to teach the new curriculum. The state has powerful staff development models that work, such as the California Writing Project and the California Mathematics Project. These programs need to be sustained and expanded.
- **Develop "smart" report cards.** The consequences of doing well in school frequently are not clear to students who seek jobs after high school. Students say employers seldom look at their report cards, and employers say report cards do not tell them anything. California needs to transform report cards and high school diplomas so that employers can tell what students have studied and how well they have done. Employers need to be encouraged to use these new report cards when deciding whom to hire and what to pay them.
- **Give households a choice.** At present, only the rich can choose their schools. Allowing all families a choice of educational styles and philosophies would likely improve both their own satisfaction with schooling and the overall quality of schools competing for students.

Expanding the range of choice among *public* schools would give households more options while preserving the public schools' role in building communities.

- **Restore local control through fair taxes**. A measure of fiscal control must be restored to local school districts. Because of Proposition 13, education funding in California is now controlled almost entirely by state officials, a shift that has contributed to bureaucratic bungling, higher costs, and loss of effectiveness in meeting local education needs. Communities, by a majority vote, should be permitted to decide on limited property tax increases for education, to be used specifically for construction or instruction.

These funds should be distributed in a way which does not penalize property-poor districts nor unfairly reward the rich. Devising such a "power equalizing" tax system is a relatively simple matter technically. Proposing it and seeing it through to fruition requires courage politically.

- **Apply new technology in schools.** New technology changes our lives but seldom fundamentally affects our schools. The kinds of technology we now have are capable of stimulating a drastic change in the basic approach to classroom teaching. However, too little attention is currently paid to developing comprehensive means for applying modern and future technology to change the classroom.

The state should establish a California Center for Educational Technology—a joint venture between the state's higher and lower educational institutions and the private sector—to provide the seed money and the leadership to adapt technological advances for use in classroom instruction and in school operations.

A Concluding Caveat

There is no single answer to better schools, and no one-time only "fix." Policymakers, educators, parents, pupils, and the general public must be committed to a comprehensive plan of action. All concerned must realize that this plan will need sustained support in order to have an opportunity for success.

California must set its standards high and has every right to expect high results. Indeed, citizens must demand results, keeping in mind that if the seeds are well tended, the eventual harvest will be bountiful.

Chapter2

Capital Perspective

HISTORICAL PERSPECTIVE

California has suffered through most of the 1980s in the grip of a voter-initiated two-tiered vise of revenue and appropriation limits. On the one hand, there is the revenue limit clamp, characterized by Proposition 13, which effectively limits property taxes and the ability of local governments to raise their own revenue, and on the other, the appropriation limit clamp—the Gann limit, which restricts government's ability to expend beyond a prescribed amount. Taken together, these two conditions place California in a budgetary straitjacket unmatched by any other state.

A typical session finds the legislature and the governor at odds over one of two dilemmas:

1. Revenue is higher than projected and the legislature and governor are forced to choose between modifications to the limit (which can be made only by extraordinary agreement between the governor and both houses of the legislature—a rare occurrence during the Deukmejian years) or by a tax refund, or some combination of the two. If a successful compromise is not reached, the full amount over the limit is rebated to taxpayers. A good example of a year in which the legislature discovered revenues in excess of the allowable expenditures was the year 1986–87. Because no compromise was ultimately approved, the taxpayers received a $1.1 billion tax refund. The alternative of setting the money aside for future state exigencies or to meet specific high priority needs is not a routinely available option in California as it is in other states. The failure to deal with this issue successfully in 1986–87 led to the increasing perception that government was dysfunctional, and helped pave the way for the issues which

HIGHLIGHTS

- Proposition 13, the Gann limit, and Proposition 98 subject state government to an unusually restricted decision-making bind.
- Proposition 98 earmarked revenue for education and intensified competition for the remaining portion of the state's highly restricted revenue pie.
- Proposition 111 modified Proposition 98's stranglehold on state revenues. Yet other public sector service areas remained resentful of education's lien on state revenues.
- Political conflict appeared almost everywhere, legislative versus executive branch, Democratic versus Republican, lower versus higher education, education versus other public services, the chief state school officer versus the state board of education, and the governor versus the teachers.
- Enrollment growth, a sagging economy, public service caseload increases, and higher-than-predicted inflation triggered an enormous revenue shortfall for the incoming governor.
- Despite colossal fiscal woes, gubernatorial candidate and eventual winner Pete Wilson championed a new set of education policy ideas.

were to dominate the capital in 1990.

2. The second scenario is that revenue is lower than projected, and the legislature and the governor are forced to choose between increasing taxes or reducing expenditures (again only by agreement between the governor and both houses of the legislature). This scenario is not uncommon in other states but other states do not face the kinds of budgetary strictures found in California. In California, for example, it is insufficient to increase taxes to accommodate a budgetary shortfall—one must also determine that there is available "room" under the Gann limit to allow revenues so raised to be spent. Fiscal 1987–88 was a budget shortfall year and required the legislature and the governor to exhaust the state's reserves—a decision which subsequently was to haunt them.

Proposition 98

As if all this were insufficiently complicated, and the legislature and the governor did not have enough problems in meeting the needs of a rapidly growing, complicated state such as California, the voters added one additional element of complexity. In November of 1988 they approved ballot Proposition 98.

Proposition 98, as originally approved by the voters, guaranteed a floor for school expenditures, equaling the percentage of state general funds for school districts and community colleges received in the 1986–87 fiscal year. In that year, schools and community colleges received approximately 40 percent of the state general fund; under Proposition 98, they would continue to receive approximately 40 percent of state general funds in subsequent years. Importantly, Proposition 98 also provided that if a prior year's revenues per student from state and local sources (adjusted for inflation and growth) produced a level of support *higher* than 40 percent, schools and community colleges would be entitled to that higher amount as a base amount for adjustment in all subsequent years. Additionally, Proposition 98 required, in those years in which the state had funds in excess of the Gann appropriation limit (as it had in 1986–87), that schools receive those excess dollars up to a maximum of 4 percent of the total general fund dollars appropriated to K–14 education.

The 1989 session of the legislature was dominated by the discussion of Proposition 98 and its impact. As the 1989 session began, the legislature, faced with a substantial projected deficit, was convinced there were insufficient revenues to satisfy even the most basic budgetary demands. By effectively holding the largest segment of the budget, K-14 education, harmless from any budgetary shortfall, substantial and disproportionate adjustments would have had to be made in other critical areas of state operations: health care, welfare, prisons, transportation, the courts, and higher education (except community colleges). At the local level, cities, counties, and special districts were decrying their plight and pointing to rapidly increasing costs for local government services. A combination of these factors led the legislature to an historic set of compromises which would be ratified and effectuated by the passage of Senate Constitutional Amendment 1 (Proposition 111) by the voters in June of 1990.

Senate Constitutional Amendment 1

Former Governor Deukmejian reported that the combination of Proposition 13, the Gann limit, and Proposition 98 left the legislature and the governor with effective control over only 8 percent of the state's budget. Given these constraints, the legislature and the governor simply could not respond to the needs of the other governmental entities. SCA 1 was the result of an amalgam of forces, but primarily it can be seen as a response by the "have-nots"—in this case, all the other state and local entities which did not have the special budgetary protection provided them by a constitutional provision such as Proposition 98.

SCA 1 successfully joined the interests of state and local government with the growing concern over the crisis in the state's transportation system. The amendment addressed three issues. One was the inadequacy of the Gann appropriations limit to authorize government expenditures suitable to public needs. The second was the inability of the state to adequately finance and maintain the state's public transportation, highway, and freeway systems. The third were the provisions in Proposition 98 which appeared to most neutral observers to go beyond merely protecting the education base and which, if left unamended, could in the long run lead to unusually large increases in school funding, while at the same time all other governmental agencies would disproportionately suffer. In brief, Proposition 111:

- Eased the Gann appropriations limit by (a) altering the index used to compute the state-level inflation rate to personal income change instead of the lesser of personal income or the consumer price index, (b) excluding gasoline tax increases from the limit, and (c) easing fiscal limits for local governments.
- Increased the tax on gasoline to 9¢ per gallon, to be phased in over five years.
- Modified the provisions of Proposition 98 by (a) altering the guaranteed funding base to make adjustments for average daily attendance declines, (b) limiting the amount of revenue required to be folded into a district's base to 1.5 percent of the state general fund, (c) providing that schools receive 50 percent of any revenues generated in excess of the Gann limit, with the remainder to go to taxpayers, rather than an amount not greater than 4 percent of the state general fund appropriated to K–14 education, (d) providing that excess Gann monies no longer become part of the ongoing base guarantee, and (e) reducing the state guarantee for schools whenever its normal inflator, growth in per-capita personal income, exceeds per-capita revenue growth by more than half a percent.

These latter provisions substantially reduced the potential school benefits previously guaranteed by Proposition 98. The education community agonized over whether to support it. They finally agreed to support SCA 1 based on a combination of statesmanship and political pragmatism. Had SCA 1 not been adopted and Proposition 98 not been altered, the long-run negative impact on K–14 education might have been appreciably worse. As the plight of the non-protected state and local agencies became worse, the inclination to treat education negatively to "balance the pain" would become much greater. As it was, the state, faced with substantial reductions in public services, had some interesting cards to play in attacking the protection provisions of Proposition 98.

THE 1990 SESSION

In *Conditions of Education in California 1988*, PACE focused its attention on the inadequacy of the state's education budget to keep pace with the enormous enrollment growth , increased student diversity, and the apparent diminution of enthusiasm for the reform agenda that held so much promise in the mid 1980s. The failure of the legislature and the governor to meet the fiscal needs of schools led to voter passage of Proposition 98 in November 1988. This in time set the stage for the issue that dominated the capital in 1989—the impact of Proposition 98 and the steps taken by the legislature to alter its provisions by SCA 1 (later Proposition 111), a legislatively initiated constitutional amendment.

The 1990 legislative session was once again dominated by concern over the fiscal situation of the state, the impact of Proposition 98, and concern about the passage of SCA 1 (which went before voters in June, 1990). The school reform movement, with several notable and important exceptions, was barely breathing. Reform had been swept aside by the basic concern over survival. In early spring, the first of several deeply troubling news items about the budget situation became public. A combination of lower-than-anticipated state revenues, larger K–12 average daily attendance, an inflation rate higher than the 5 percent projected in the governor's budget, and larger-than-projected increases in social service case loads all contributed to a growing sense of fiscal alarm. As concern over the financial situation of the state intensified, more and more attention was being drawn to the relatively advantageous position held by the Proposition 98-protected schools. However, if schools felt "protected" because of Proposition 98, they neglected to pay full credit to the capability of the state's administrative and legislative staff to creatively manipulate the budget.

A series of proposals designed to reduce the competitive advantage held by schools began to emerge. They fell into two categories, both subject to legislative control. First, since schools annually receive adjustments for average daily attendance, a redefinition could effectively reduce the Proposition 98 guarantee and free up resources for expenditure in other portions of the budget. Proposals began to surface that would alter a relatively obscure feature of the law relating to the computation of adult education concurrent enrollment.

Under current law, in specified situations, students can concurrently enroll in high school and adult education programs. These programs are designed to permit high school students to take courses, most often basic or remedial education, for part of the school day in adult schools. By concurrently enrolling these students, districts are eligible for additional money. These programs have undergone rapid growth recently, and there has been some concern that there are districts that are taking advantage of the law to gain additional money without incurring additional expense. Although there were some indications of abuse, the legislative debate on this issue focused not on those districts that were abusing the law but on how a reduction in average daily attendance in these programs could effectively reduce the Proposition 98 guarantee and free dollars for expenditure on other portions of the budget.

An even more frightening prospect for schools was another ADA redefinition proposal that students be counted as attending school for apportionment purposes if, and only if, they attended for the full minimum day. Under current law, if a student attends at any time during the day, he or she is counted as having attended the full day. Under the new proposal, the school would presumably take role every period and be required to demonstrate that each student was there for the full minimum day. Proponents argued that a tougher policy would enhance attendance and assist in the struggle against dropouts. Opponents argued that it would simply be a bureaucratic nightmare to take official, auditable attendance throughout the school day. The real argument, however, centered not on the policy issues at hand but on the Proposition 98 impact of the competing policy options. While these two ADA redefinition proposals appear on the merits to be more sensible than the provisions of current law, their underlying purpose is to reduce eligibility for funds, not to clean up provisions of the law which have been in effect for years. The reason that the department of finance and the legislative analyst are interested in a new average daily attendance calculation has more to do with the fact that, if implemented, it would save the state an estimated $250 million, not that it is good or bad public policy.

The second general category represents the costs of services that can be shifted from other government agencies to schools. Three examples suffice. The first proposal was to shift mental health and residential care costs for special education pupils from the health and welfare budget to the schools. The second would allow counties to charge fees for the conduct of school board elections. A third "shift" proposal (actually passed by the legislature in 1989) authorized counties to bill school districts for the costs of assessing and collecting property taxes. These provisions represent attempts to shift costs from "hard pressed" counties to the "protected" schools. Again the focus was not on the public policy issues but on the impact on Proposition 98 guarantees.

In May, the state budget situation worsened. The legislative analyst reported that the state was some $3 billion short of replenishing the state's general fund reserve and providing cost-of-living and workload adjustments. These are adjustments to the 1989–90 base, assuming no new dollars. Once again it is important to note how Proposition 98 operates. Schools are guaranteed the money they received from the prior year, plus adjustments for inflation and average daily attendance. Therefore, the entire $3 billion shortfall, because of Proposition 98, would have to be borne by the public four-year institutions of higher education and the non-education portions of state and local budgets. Proposition 98 does contain a provision for emergencies, which if agreed to by the governor and two-thirds of each house of the legislature, permits the state to forego ADA and inflation increases in that year. In May, the governor did not call for a declaration of emergency, but opted instead to propose freezing cost-of-living adjustments for health and welfare. One month later the governor, faced by an even larger deficit, proposed to suspend Proposition 98 and to cut the budget by $3.6 billion—almost $800 million of that reduction was proposed to come out of public elementary and secondary schools.

The education coalition responded with an all-out effort in opposition to the suspension of Proposition 98. Ed Foglia, president of the California Teachers Association, and Maureen DiMarco, president of the California School Boards Association, joined Superintendent of Public Instruction Bill Honig as principal spokespersons for the coalition. The governor engaged in a series of bitter and vituperative exchanges with the California Teachers Association and the superintendent of public instruction which were reminiscent of their 1988 battles.

The legislature, after a protracted and rancorous budget debate and after the voters had approved Proposition 111, refused to suspend Proposition 98 and instead passed a budget bill containing the 4.76 percent inflationary increase called for by formula. Governor Deukmejian reduced the cost-of-living increase to 3 percent and thereby directly challenged Proposition 98 by effectively providing less money for schools than was guaranteed by the proposition. Gray Davis, the state controller, defied the governor by declaring his intent to allocate state revenues to schools based on the Proposition 98 guarantee. This act will probably prove to be only symbolic since there will not be sufficient general fund revenues under any circumstances to fund the dollars required. In addition, the governor withheld all but $31 million for the class-size reduction provisions contained in SB 666 of 1989 (Morgan/Hart). In another action to shift school expenditures to Proposition 98, the governor vetoed the appropriation of driver training funds and instead called for new legislation to place the costs for driver education within Proposition 98. In one of the more obvious anti-Proposition 98 ploys, he deleted $9.6 million of the department of education's budget (not protected by Proposition 98) for the California Assessment Program. Simultaneously, the governor set aside $9.6 million for the establishment of a new assessment program to be funded *within* Proposition 98. Speculation ran high that the reduction of this program, a favorite of Superintendent Honig, was designed to send a "message" from the governor to the superintendent. Once again, an attempt had been made to transfer funds under the Proposition 98 limit to an unprotected category.

The 1990–91 budget and accompanying legislation, as finally enacted, called for $900 million in revenue increases and $2.7 billion in expenditure reductions but was, according to Legislative Analyst Elizabeth Hill, based on optimistic assumptions—almost none of which appear to be likely to be true. The most problematic were the assumptions that inflation would stay low, the economy would grow at about its current pace, and there would be no new programs enacted by the legislature and the governor or through the initiative process. In sum, the underlying fiscal problems of 1990 promise to bedevil the budgetary process for at least the 1991 budget debate. In fact, Gail Greer Lyle, Executive Secretary, Commission on State Finance, suggests that the imbalance between spending requirements and tax receipts will continue to escalate and ". . . the fiscal crisis will not go away in future years. Ten-year budget projections show that, cumulatively, the state will be more than $50 billion short, even though the state budget will more than double."

By October, it was clear that revenue growth was falling far short of projections. In addition to freezes of state hiring and additional reductions in state agency expenditures, the governor again called for the suspension of Proposition 98, which would save more than $500 million in 1990–91 expenditures. By November, the governor decided the situation had deteriorated to such an extent that he called the legislature into special session. The Democratic leadership in the legislature obviously preferred to wait for the arrival of the new governor, and there was never any serious hope that a special session could possibly succeed in arriving at a solution to a budget crisis of this magnitude.

The 1990 budget deliberations proved to be the most complex in the state's history. Not only did fiscal planners and policymakers have to take into account the complicated interactions of Proposition 13 and the Gann limit, but also they had to deal with Proposition 98 and at least two sets of contingencies surrounding Propositon 111—one set if it failed, and one if it succeeded. Add to that complex mixture the slowly unfolding but ever-worsening financial situation of the state, and the result is a public policy nightmare. A perfectly rational strategy under a given set of assumptions could prove disastrous if those assumptions did not hold.

The legislative analyst provided a remarkable example of the dysfunctional nature of the current situation when she pointed out that if the Proposition 98 minimum funding guarantee is not suspended, the legislature will need to appropriate an additional $2 billion to K–14 education above amounts proposed in the governor's 1991–92 budget as introduced in December, 1990. The governor's budget estimates that, with its spending and revenue proposals, there is only $2.1 billion in additional "room" remaining under the state portion of the Gann appropriations limit.

Therefore, if the legislature chooses to address the budget problem by raising revenues rather than by making further cuts in non-K–14 education programs, *100 percent* of the first $2 billion in new revenues would have to be appropriated to K–14 education. Of the next $100 million in revenue increases, K–14 would be entitled to roughly 40 percent. And, of any revenues raised in excess of $2.1 billion, 50 percent would go to K–14 and the remainder would be rebated to taxpayers. Thus, of the first $2.1 billion raised by new taxes, only $60 million would be available for non-K–14 expenditures. Of any money raised beyond $2.1 billion, *none* would be available for non-K–14 expenditures.

HONIG/DEUKMEJIAN RELATIONS

The budget conflict and the worsening fiscal situation of the state rekindled and escalated the deeply held animosity between Governor Deukmejian and Superintendent Honig. The governor, whose campaign featured the slogan, "From I.O.U. to A–O.K." to describe his financial stewardship in the post-Jerry Brown days, was particularly concerned about the prospect of leaving a similar legacy for his successor. Honig, the spokesman for the education community and the leading advocate for the passage of Proposition 98, was equally committed to the defense of the voter-approved protection "guarantees." The superintendent and the education community knew that Proposition 111 would not have passed without their support, that they had "conceded" several advantageous provisions which diluted the original protections, and that it would not be credible to their supporters to agree to the suspension of Proposition 98. The debate, at a time when only the fullest cooperation among the parties could lead to a reasonable and equitable solution, quickly deteriorated to the kind of name-calling reminiscent of the unproductive squabbles of 1988. The governor referred to the education lobby as, "whining," or "complaining." The superintendent noted that George Deukmejian had "... secured his place in California's history as the anti-education governor."

The 1990 dispute was different on at least one dimension—the involvement of the state board of education. The state board, fully comprised of Deukmejian appointees, began to create problems for the superintendent by questioning his authority to act unilaterally in a number of ways historically reserved for the superintendent. The board was also critical of the involvement of the superintendent's wife, Nancy, in a California school-related business from which she (and the superintendent) profited. Superintendent Honig denied any impropriety.

In any state where there is an elected superintendent and an appointed board, the appropriate roles are ambiguous. Although issues over the suitable role of the state board have arisen in other times with other superintendents, at no time has the level of concern been as explicit. It is equally accurate to note that at no time have the superintendent and the governor been so antagonistic. The issues involved in the dispute over roles, which will be resolved in the courts, are not as important as the indication that this action further reflects the level of distrust and antagonism that existed during the Deukmejian years. By the end of Governor Deukmejian's term, it was difficult to imagine how relationships between the superintendent and the governor could have been worse.

WILSON'S ELECTION

As 1990 drew to a close, the focus shifted to the gubernatorial campaign. Both candidates for governor, Democrat Dianne Feinstein and Republican Pete Wilson, were perceived to be friendly toward education. Both emphasized education in their campaigns and promised a climate more conducive to education than the one which predominated during the Deukmejian years.

Almost immediately upon election, Governor-elect Wilson moved to reaffirm his commitment to education and to send signals to the education community that they could expect a more sympathetic ear. An early and powerful sign was the appointment of the former president of the California School Boards Association, Maureen DiMarco, to a proposed new cabinet-level position of Secretary for Child Development and Education. DiMarco had been an outspoken advocate for education funding and was one of principal spokespersons opposing Governor Deukmejian's attempts to reduce the education budget. The appointment of DiMarco, at one time a staffer for Bill Honig, was also seen as a signal that Wilson wanted to end the bitter bickering that had characterized the Honig/Deukmejian relationship. More importantly, Wilson had advocated a substantive program of integrated education, health, and social services for children and directed DiMarco to begin its implementation.

The education community was cautiously optimistic about the new governor, but although the rhetoric may be less dramatic, the basic and fundamental problems remain. Issues relating to the budget, the Gann limit, and Propositions 13, 98, and 111 will not be easily resolved in the short term. Given the severity of the 1991–92 budget situation, the governor will be forced to argue for the suspension of Proposition 98. The education community will predictably argue against. The positive attitude that prevailed prior to the governor's assuming office will be severely tested by the events of the next session.

SENATE BILL 1274

Once again, fiscal issues had totally dominated the attention of the legislature and the governor. It was as if all other issues, especially costly ones, had been placed on hold by the preoccupation with the budget and school finance issues. There were exceptions to this generality, and at least one deserves attention.

The Business Roundtable-initiated Senate Bill 1274, by Senator Gary Hart, Democrat from Santa Barbara, was the one substantial reform measure which survived the legislative process. The bill would allow school districts or consortia of school districts to apply to the department of education for planning and implementation grants for local restructuring efforts. The grants ($30 per pupil for planning and up to $200 per year for implementation) are to go to districts prepared to make a five-year commitment to substantial restructuring. Half of the participating schools must be from the ranks of low-performing schools. The emphasis of the act focuses on four core school activities:

1. Restructuring curriculum, instruction and assessment by providing "personalized instruction," decreasing teacher workload, and increasing contact time between teacher and pupils. Assessment must include methods other than multiple choice examinations.
2. Providing new opportunities for 11th and 12th graders—including increased opportunities for alternative delivery systems, such as college enrollment, business internships, and attendance in specialized schools or programs.
3. Changing the roles of parents and school site personnel. Parents are to be able to participate in decisions regarding placement of their children in schools or programs. First-year teachers are to be given additional support and assistance. The proposal will present a plan for enhanced staff development for all staff members.
4. Enhancing the use of technology to improve the quality of instruction, and to better manage information.

SB 1274, the sole 1990 survivor of many serious attempts to reform or restructure schools, is filled with checks and balances that represent the current lack of trust now prevailing in Sacramento. Prior to the selection of fundable projects, an arcane maze of steps must be followed:

(a) The superintendent must appoint a "representative" group of classroom teachers, parents, administrators, and businesses.

(b) The list of proposed "representatives" is to be forwarded to the governor and both legislative education policy committees 30 days prior to official appointment.

(c) The superintendent is then required to consult with this group prior to submitting his list of recommended districts to the state board of education for their approval.

Thus, what would ordinarily be presumed to be a routine administrative function, selection of districts to participate in a pilot project, becomes a convoluted procedure involving the legislature, the governor, and the state board of education.

SUMMARY

Upon reflection on the capital scene of 1990, there seem to be some reasons for optimism. At least initially, the governor-elect appears to be dedicated to the notion of avoiding the kind of intenecine warfare with the superintendent of public instruction. The appointment of Maureen DiMarco, a forceful advocate for education, sends a positive signal to the education community about the governor's commitment to education. His advocacy of integrated health, education, and social services for young people is a reform worthy of serious consideration. Finally, the new governor's early efforts to develop a bipartisan, consensual agreement to resolve the budget crisis is a departure from Deukmejian's close-to-the-vest approach. Additionally, the state's business community is convinced of the importance of education in the state's future and appears dedicated to a positive and sustained role in education reform.

However, in spite of the good will generated by the prospects of a new administration, and the welcome involvement of the state's business community, one need only consider the state's current fiscal crisis and the crippling limitations placed on the legislature and the governor by various populist propositions to feel pessimistic about the role of the state in reforming and restructuring education. The state's education problems are not "on hold." Until the fiscal and governance crises can be resolved, they will continue to worsen.

Chapter 3

Enrollment in California Schools

California establishes a new national record each year for the number of students enrolled in statewide public school systems. In 1989–90, slightly more than 4.75 million students were enrolled in California's public schools, 43.9 percent more students than Texas' 3.3 million, and almost 86 percent more students than New York's 2.6 million. Of all the nation's public school students, 11.8 percent are enrolled in California schools.[1] In other words, one student out of every eight in America is enrolled in a California public school.

California public school enrollments increased approximately 150,000, or 3.3 percent, in 1989–90 over 1988–89. The state's public school growth rate ranked fourth in the United States, and was more than four times the national average. California's growth rate ranked behind only those of Nevada (5.8%), Florida (4.0%) and Alaska (3.4%). Texas (1.0%) ranked sixteenth, and New York (-0.3%) ranked thirty-sixth. The national average growth rate was 0.8 percent.

Figure 3.1 displays enrollments by grade level during the 1980s. The picture it paints is one of emergence from an eleven-year period of enrollment decline. From a peak level of approximately 4.5 million students in 1970–71, enrollments fell steadily through 1981–82. A turnaround occurred in 1982–83, and, through the 1980s as a whole, enrollments rose 15.8 percent. The annual average increase has been approximately 1.5 percent, ranging from 100,000 per year in the mid 1980s to last year's 150,000. A key point, however, is that elementary grades (and, in particular, primary grades) have generated the growth; high schools actually declined in enrollment during the 1980s.

HIGHLIGHTS

- One out of every eight students in the United States is enrolled in California public schools.
- Every year, California's public school enrollment growth is equal to the entire public school population of the state of Montana.
- During the 1990s, 610 new students will be added to California's public school rolls every day. This is the equivalent of a new school each day.
- By 1999, California public school enrollments are expected to top the 7 million mark.
- Between 1990 and the year 2000, enrollments are expected to grow each year across all grade levels, kindergarten through grade twelve.
- By 1997, Hispanic enrollment in public schools will surpass that of whites.
- Between 1985 and 1990, the number of limited–English–proficient (LEP) students grew nearly four times as fast as enrollments generally. California's LEP population is equal to the total enrollments of 37 other states.
- The number of students enrolled in private schools in California peaked at 11.7 percent in 1982-83 and has been declining since then. Private school enrollments are expected to be 8 percent of the total by the year 2000.

FIGURE 3.1 K–12 Enrollment—Historical

Grade Level	1980–81	1981–82	1982–83	1983–84	1984–85	1985–86	1986–87	1987–88	1988–89	1989–90	Ten-Year % Growth	Annual % Growth
Kindergarten	288,101	300,239	313,584	319,328	336,766	360,210	380,608	392,112	403,229	410,631	45.2%	3.8%
First	291,179	298,341	308,359	322,144	330,089	350,046	374,272	393,533	409,600	423,689	49.1%	4.1%
Second	278,041	287,652	292,515	300,621	315,807	325,825	343,780	366,613	385,920	405,057	42.1%	3.6%
Third	285,299	282,464	288,150	293,402	303,547	320,083	330,354	347,207	370,866	393,011	28.7%	2.6%
Fourth	305,840	290,323	282,776	290,277	298,081	308,202	325,902	335,078	352,066	379,538	19.2%	1.8%
Fifth	319,418	310,874	291,642	285,894	294,265	303,277	314,258	330,395	339,983	358,578	16.0%	1.5%
Sixth	315,095	324,324	313,067	294,405	290,546	299,902	308,678	319,686	335,419	347,629	16.7%	1.6%
Seventh	304,795	322,264	334,426	324,883	306,763	304,180	312,983	321,898	330,408	349,524	14.4%	1.4%
Eighth	302,739	307,429	323,194	333,082	324,432	307,778	304,787	311,579	318,822	330,967	7.1%	0.7%
Ungraded	67,201	45,878	54,105	49,488	45,666	47,202	50,062	51,903	65,730	63,501	-1.9%	-0.2%
Subtotal	2,757,708	2,769,788	2,801,818	2,813,524	2,845,962	2,926,705	3,045,684	3,170,004	3,312,043	3,462,125	25.3%	2.3%
Ninth	327,029	326,143	331,791	346,363	364,166	363,733	348,672	345,654	356,645	367,444	9.6%	0.9%
Tenth	332,489	334,287	330,936	335,492	352,756	367,941	363,756	345,144	338,785	349,715	1.8%	0.2%
Eleventh	317,141	311,518	303,598	301,223	307,314	325,690	341,809	332,980	313,893	309,689	-2.8%	-0.3%
Twelfth	274,831	280,818	270,700	266,889	254,211	243,398	251,281	266,028	257,327	243,023	- 13.1%	-1.4%
Ungraded	67,223	23,602	26,643	25,526	26,701	28,087	26,787	28,588	39,427	39,982	- 50.3%	-6.7%
Subtotal	1,318,713	1,276,368	1,263,668	1,275,493	1,305,148	1,328,849	1,332,305	1,318,394	1,306,077	1,309,853	-3.5%	-0.4%
Total	4,076,421	4,046,156	4,065,486	4,089,017	,151,110	4,255,554	4,377,989	4,488,398	4,618,120	4,771,978	15.8%	1.5%
Increase	-43,090	-30,265	19,330	23,531	62,093	104,444	122,435	110,409	129,722	153,853		
% Increase	-1.0%	-0.7%	0.5%	0.6%	1.5%	2.5%	2.9%	2.5%	2.9%	3.3%		

Note: Historical figures published by the Demographic Research Unit, California Department of Finance, do not reflect ungraded en rollments; as these form a fairly significant part of total public school enrollments, PACE has elected to use these actual counts.

SOURCE: Educational Demographics Unit, Program Evaluation and Research Division, California Department of Education.

FIGURE 3.2 K–12 Enrollment—Projected

Grade Level	1990–91	1991–92	1992–93	1993–94	1994–95	1995–96	1996–97	1997–98	1998–99	1999–2000	Ten-Year % Growth	Annual % Growth
Kindergarten	431,432	441,093	461,151	488,057	495,690	509,405	522,737	534,846	534,659	533,919	30.0%	2.7%
First	431,339	453,007	463,443	484,790	513,273	521,311	535,765	549,824	562,608	562,461	32.8%	2.9%
Second	418,500	425,921	447,322	457,557	478,647	506,731	514,524	528,649	542,373	554,834	37.0%	3.2%
Third	412,433	426,170	433,509	455,181	465,483	486,949	515,494	523,269	537,483	551,277	40.3%	3.4%
Fourth	400,926	420,829	434,952	442,287	464,345	474,818	496,771	525,932	533,800	548,225	44.4%	3.7%
Fifth	386,638	408,633	429,089	443,649	451,036	473,523	484,212	506,745	536,598	544,633	51.9%	4.3%
Sixth	366,725	395,468	418,015	438,963	453,879	461,204	484,040	494,817	517,832	548,291	57.7%	4.7%
Seventh	362,037	382,085	412,169	435,798	457,766	473,404	480,925	504,638	515,875	540,020	54.5%	4.4%
Eighth	350,275	362,766	382,750	412,856	436,494	458,371	473,945	481,202	504,755	515,782	55.8%	4.5%
Ungraded	63,382	67,078	70,997	75,395	77,090	79,509	82,433	85,211	87,737	89,604	41.1%	3.5%
Subtotal	3,623,687	3,783,050	3,953,397	4,134,533	4,293,703	4,445,225	4,590,846	4,735,133	4,873,720	4,989,046	44.1%	3.7%
Ninth	380,510	401,684	415,098	436,932	470,264	496,074	519,649	535,806	542,602	567,506	54.4%	4.4%
Tenth	360,771	374,065	395,076	408,532	430,329	463,451	489,066	512,683	529,146	536,391	53.4%	4.4%
Eleventh	319,819	329,941	342,245	361,874	374,697	395,017	425,717	449,820	471,888	487,438	57.4%	4.6%
Twelfth	240,096	248,074	256,017	265,592	281,098	291,173	307,100	331,065	350,009	367,262	51.1%	4.2%
Ungraded	32,946	35,297	38,298	41,499	42,995	44,326	47,398	50,151	51,985	53,528	33.9%	3.0%
Subtotal	1,334,142	1,389,061	1,446,734	1,514,429	1,599,383	1,690,041	1,788,930	1,879,525	1,945,630	2,012,125	53.6%	4.4%
Total	4,957,829	5,172,111	5,400,131	5,648,962	5,893,086	6,135,266	6,379,776	6,614,658	6,819,350	7,001,170	46.7%	3.9%
Increase	185,851	214,282	228,020	248,832	244,124	242,179	244,510	234,882	204,692	181,820		
% Increase	3.9%	4.3%	4.4%	4.6%	4.3%	4.1%	4.0%	3.7%	3.1%	2.7%		

SOURCE: Projections of graded enrollments by Demographic Research Unit, California Department of Finance, on June 25, 1990 (released to the public on September 14, 1990. Projections of ungraded enrollment by PACE, based on five-year historical rolling average; ungraded enrollment is generally about 2% of total enrollment.

The decade's overall growth masked a pronounced dip in enrollments that worked its way through the grade levels during the period. The lowest point in that dip can clearly be traced on Figure 3.1 by following the cohort of pupils enrolled in third grade in 1981–82.[2] Pupils remaining in school from that cohort currently are enrolled in grade twelve. Behind them are swelling numbers of pupils at all grade levels, and the numbers are projected to remain on the rise through the 1990s.

Figure 3.2 contains projected enrollments for the 1990s, reflecting the most current statistical information produced by the Department of Finance's Demographic Research Unit.[3] By the year 1999–2000, as Figure 3.2 shows, California public school enrollments are projected to top the 7 million mark. The coming decade's expansion will total nearly 2.25 million students, meaning that ten years from now California public schools will be serving 46.7 percent more students than they are at present. School enrollments will be growing at an annual average rate of approximately 3.9 percent or 225,000 students per year. In actuality, growth will be somewhat staggered. The year-by-year growth rate will rise steadily through the mid 1990s to the point where almost 250,000 new students will be enrolling each year, then taper off by the decade's end to approximately 180,000 new students per year. Stated another way, during the 1990s as a whole, the state will be adding 610 new students to the public schools every day, including weekends and holidays! This means a new school every day, three hundred and sixty-five days a year.

WHEN WILL THE GROWTH BUBBLE BURST?

Demographers at the California Department of Finance believe that the growth rate of school enrollments will accelerate through 1993–94, and continue strong throughout the 1990s, as shown on Figure 3.2. The individual grade-level figures in this figure are, perhaps, off-putting in number and complexity, but careful note should be taken of two: the numbers of first graders projected in 1998–99 and in 1999–2000. These two numbers are approximately equal. This is a most significant projection, as it signals the potential for a turnaround in the awesome growth rate of school enrollments just as the state enters the twenty-first century.

The projected stabilization of the number of first graders in 1999–2000 is based, in large part, on stabilization of the birth rate in 1993. If actually realized, 1993 would become the first year in twenty that total births did not increase from one year to the next. It would be the first year in ten that the state's birth rate did not exceed a 1.5 percent annual pace.

Estimated births, along with in- and out-migration trends, form the principal bases of these school enrollment projections. However, it now appears unlikely that the 1993 stabilization target will be realized. Recently compiled statistics reveal that the Department of Finance's estimate of births in 1989 was approximately 30,000 below the actual level, and its 1990 estimate is projected to be as much as 45,000 below. When actual figures for 1989 and modified estimates for 1990 are entered into demographic projection formulas, they will result in an extension of the population stabilization date into the future by at least one year. They also will undoubtedly result in *higher* enrollment projections in 1994 and beyond. Revised statistics are scheduled to be released in fall 1991.

Figure 3.2 shows that, through 1999–2000 (with the one exception noted earlier), enrollments are expected to grow each year across all grade levels, kindergarten through grade twelve. For example, the number of second graders rises from 418,500 in 1990–91 to almost 555,000 in 1999–2000, a 32.6 percent increase. The most rapid growth in the 1990s will take place at the middle and high school grades (6–12), each of which will increase at better than 4 percent per year.

TRENDS IN ENROLLMENT ACROSS GRADE LEVELS

Not all children attend kindergarten. Thus, there generally are more first graders in any given year than there are students at any other single grade level. However, should stabilization of the birth rate occur, this phenomenon could change early in the twenty-first century. As age group cohorts progress through grade levels, migration into the state tends to swell the numbers enrolled each successive year though grade eight. For example, whereas there are projected to be 431,000 first graders in 1990–91, that age group cohort will swell to 481,000 eighth graders by 1997–98.

There also is a decided jump in enrollments between grades eight and nine, reflecting an influx of students from private to public schools and a reduction in the numbers of students placed in ungraded settings. For example, 350,000 eighth graders are expected in 1990–91, but that same age group cohort should produce 401,000 ninth graders in 1991–92.

Enrollments fall precipitously and relentlessly from grades nine through twelve, largely reflecting vast numbers of students who drop out of high school. For example, although 380,000 ninth graders are projected in 1990–91, the same age group cohort is expected to contain only 265,000 twelfth graders four years down the road.

HOW WILL GROWTH BE DISTRIBUTED?

Just as California's population and resources are not distributed uniformly, so school enrollments are not equal, and they will not grow evenly over the next decade. Figure 3.3 provides county-by-county enrollment percentages in 1979–80, 1989–90, and projected 1999–2000; data are aggregated into four regional groupings: north, Bay Area, central/coastal, and south. Figure 3.4 looks at the same data in a different way, showing the ten-year growth rates for the 1980s and 1990s (projected) for each county in total and in annualized average fashion.

What these figures reveal is that, through the 1980s, Riverside County was the leader in enrollment growth, followed closely by San Bernardino County; the two counties are expected to retain their first and second rankings during the 1990s. The Bay Area's share of the state's total enrollments during the 1980s declined 14.7 percent, while the central/coastal region's share grew 10.7 percent. Southern California is expected to garner a greater share of statewide enrollments over the next decade, while the Bay Area's share will continue to decline. The sizzling growth pace experienced in California's central/coastal region during the 1980s is expected to subside and, along with the northern region, expected to grow evenly with the statewide average during the 1990s.

Among the six counties with the six largest enrollments, Riverside, San Bernardino, and San Diego are expected to increase in enrollment significantly faster than the statewide average over the next decade, while Los Angeles, Orange, and Santa Clara Counties, though rising steadily, do not outpace the average. Alameda and Sacramento Counties are expected to exchange seventh and eighth ranks in student enrollment over the next ten years, the former growing at a 2.6 percent annual clip, while the latter will average a 4.1 percent annual pace.

MINORITY ENROLLMENTS

Figure 3.5 displays percentages of enrollment by ethnicity over the past ten years and for the coming decade. This figure shows that, in 1979–80, 60 percent of students enrolled in the California public schools were white and approximately one-quarter were Hispanic. In 1990–91, less than half (46%) are white and almost one-third are Hispanic. Over the same time period, the percentages that Asian and Filipino students represent of the whole roughly doubled, from 5.7 percent to 10 percent, while black student population declined from a 10 percent share to approximately 8.5 percent of total school enrollments.

The next ten years will be marked by the continuing surge of enrollments among Hispanics. By 1997–98, Hispanic students will compose nearly 40 percent of all public school enrollments in California and will constitute the largest share of total enrollments; white students will become second. At the same time, there will be a slow but steady decline in the percentage of black students, and slow but steady growth in the percentages of Asian, Filipino, and Pacific Islander students. The percentage represented by American Indian and Alaskan Natives will remain essentially unchanged.

LIMITED-ENGLISH-PROFICIENT STUDENTS

Figure 3.6 displays the numbers of limited-English-proficient (LEP) students and the percent they represent of total graded enrollments. The data are categorized by primary (K–3), middle (4–8), and high school (9–12) grades. The figure documents the state's dramatic increase in the numbers of LEP students.

In 1989–90, more than 860,000 California students were LEP, up 16 percent from 1988–89. Over the past five years the numbers of LEP students have grown nearly four times as fast

FIGURE 3.3 Percent of Enrollment by County 1979–80, 1989–90, 1999–2000

County	% Enroll 1979–80	% Enroll 1989–90	Ten-Year Difference	% Enroll 1999–2000	Ten-Year Difference
Alpine	0.0%	0.0%	0.0	0.0%	0.0
Amador	0.1%	0.1%	0.0	0.1%	0.0
Butte	0.5%	0.6%	0.1	0.6%	0.0
Colusa	0.1%	0.1%	0.0	0.1%	0.0
Del Norte	0.1%	0.1%	0.0	0.1%	0.0
El Dorado	0.4%	0.5%	0.1	0.6%	0.1
Glenn	0.1%	0.1%	0.0	0.1%	0.0
Humboldt	0.5%	0.4%	0.0	0.4%	-0.1
Lake	0.1%	0.2%	0.0	0.2%	0.0
Lassen	0.1%	0.1%	0.0	0.1%	0.0
Mendocino	0.3%	0.3%	0.0	0.3%	0.0
Modoc	0.0%	0.0%	0.0	0.0%	0.0
Nevada	0.2%	0.2%	0.1	0.3%	0.0
Placer	0.6%	0.7%	0.1	0.8%	0.1
Plumas	0.1%	0.1%	0.0	0.1%	0.0
Sacramento	3.4%	3.6%	0.2	3.7%	0.1
Shasta	0.6%	0.5%	0.0	0.5%	0.0
Sierra	0.0%	0.0%	0.0	0.0%	0.0
Siskiyou	0.2%	0.2%	0.0	0.1%	0.0
Sutter	0.3%	0.3%	0.0	0.3%	0.0
Tehema	0.2%	0.2%	0.0	0.2%	0.0
Trinity	0.1%	0.1%	0.0	0.0%	0.0
Yolo	0.4%	0.5%	0.0	0.5%	0.0
Yuba	0.2%	0.3%	0.0	0.2%	0.0
North	**8.5%**	**9.1%**	**0.6**	**9.1%**	**0.0**
Alameda	4.4%	3.8%	-0.6	3.4%	-0.4
Contra Costa	3.0%	2.6%	-0.3	2.6%	0.0
Marin	0.8%	0.5%	-0.3	0.4%	-0.1
Napa	0.4%	0.3%	0.0	0.3%	0.0
San Francisco	1.4%	1.3%	-0.1	1.0%	-0.3
San Mateo	2.2%	1.7%	-0.5	1.5%	-0.2
Santa Clara	6.0%	4.6%	-1.4	4.0%	-0.7
Solano	1.1%	1.2%	0.2	1.3%	0.1
Sonoma	1.2%	1.3%	0.0	1.2%	0.0
Bay Area	**20.4%**	**17.4%**	**-3.0**	**15.7%**	**-1.7**

FIGURE 3.3 Percent of Enrollment by County 1979–80, 1989–90, 1999–2000 (continued)

County	% Enroll 1979–80	% Enroll 1989–90	Ten-Year Difference	% Enroll 1999–2000	Ten-Year Difference
Calaveras	0.1%	0.1%	0.0	0.1%	0.0
Fresno	2.5%	2.9%	0.4	3.0%	0.1
Inyo	0.1%	0.1%	0.0	0.0%	0.0
Kern	2.0%	2.4%	0.4	2.4%	0.0
Kings	0.4%	0.4%	0.0	0.4%	0.0
Madera	0.3%	0.4%	0.1	0.4%	0.0
Mariposa	0.0%	0.1%	0.0	0.1%	0.0
Merced	0.7%	0.8%	0.2	0.9%	0.0
Mono	0.0%	0.0%	0.0	0.0%	0.0
Monterey	1.2%	1.3%	0.0	1.1%	-0.1
San Benito	0.1%	0.2%	0.0	0.2%	0.0
San Joaquin	1.6%	1.9%	0.4	2.1%	0.1
San Luis Obispo	0.5%	0.6%	0.1	0.7%	0.1
Santa Barbara	1.2%	1.1%	-0.1	1.1%	0.0
Santa Cruz	0.7%	0.7%	0.0	0.7%	0.0
Stanislaus	1.3%	1.6%	0.3	1.8%	0.2
Tulare	1.3%	1.5%	0.2	1.4%	-0.1
Tuolumne	0.1%	0.2%	0.0	0.2%	0.0
Ventura	2.7%	2.4%	-0.3	2.1%	-0.3
Central/Coastal	**16.8%**	**18.6%**	**1.8**	**18.7%**	**0.1**
Imperial	0.6%	0.6%	0.0	0.5%	0.0
Los Angeles	30.4%	28.6%	-1.8	26.5%	-2.1
Orange	8.7%	7.6%	-1.1	7.4%	-0.2
Riverside	2.9%	4.3%	1.4	6.1%	1.8
San Bernardino	4.1%	5.7%	1.6	7.5%	1.7
San Diego	7.6%	8.0%	0.5	8.5%	0.4
South	**54.2%**	**54.9%**	**0.7**	**56.5%**	**1.6**

SOURCE: Demographic Reserach Unit, California Department of Finance. Projections made on June 25, 1990, and released to the public on September 14, 1990.

FIGURE 3.4. Percent of Enrollment Growth 1980–90 and Projected 1990–2000

County	% Growth 1980–90	Annual % Growth	% Growth 1990–2000	Annual % Growth
Alpine	-5.9%	-0.6%	-1.4%	-0.1%
Amador	24.1%	2.2%	44.4%	3.7%
Butte	31.5%	2.8%	40.9%	3.5%
Colusa	44.1%	3.7%	40.7%	3.5%
Del Norte	29.6%	2.6%	27.3%	2.4%
El Dorado	55.1%	4.5%	72.1%	5.6%
Glenn	20.9%	1.9%	34.7%	3.0%
Humboldt	12.4%	1.2%	19.7%	1.8%
Lake	57.8%	4.7%	59.0%	4.7%
Lassen	21.3%	1.9%	17.1%	1.6%
Mendocino	25.9%	2.3%	25.8%	2.3%
Modoc	12.9%	1.2%	18.6%	1.7%
Nevada	57.3%	4.6%	55.0%	4.5%
Placer	31.6%	2.8%	69.6%	5.4%
Plumas	6.5%	0.6%	3.5%	0.3%
Sacramento	28.8%	2.6%	50.2%	4.1%
Shasta	16.1%	1.5%	39.9%	3.4%
Sierra	28.9%	2.6%	36.4%	3.2%
Siskiyou	14.9%	1.4%	16.5%	1.5%
Sutter	21.9%	2.0%	43.8%	3.7%
Tehema	30.8%	2.7%	54.7%	4.5%
Trinity	11.5%	1.1%	17.0%	1.6%
Yolo	26.4%	2.4%	50.7%	4.2%
Yuba	21.2%	1.9%	40.6%	3.5%
North	**28.2%**	**2.5%**	**46.8%**	**3.9%**
Alameda	4.5%	0.4%	29.7%	2.6%
Contra Costa	6.2%	0.6%	44.4%	3.7%
Marin	-24.1%	-2.7%	27.0%	2.4%
Napa	4.9%	0.5%	42.1%	3.6%
San Francisco	13.8%	1.3%	10.2%	1.0%
San Mateo	-7.7%	-0.8%	31.8%	2.8%
Santa Clara	-7.4%	-0.8%	25.6%	2.3%
Solano	36.9%	3.2%	56.0%	4.5%
Sonoma	23.1%	2.1%	43.2%	3.7%
Bay Area	**2.3%**	**0.2%**	**32.5%**	**2.9%**

FIGURE 3.4. Percent of Enrollment Growth 1980–90 and Projected 1990–2000 (continued)

County	% Growth 1980–90	Annual % Growth	% Growth 1990–2000	Annual % Growth
Calaveras	49.9%	4.1%	66.6%	5.2%
Fresno	39.6%	3.4%	49.7%	4.1%
Inyo	-3.6%	-0.4%	1.4%	0.1%
Kern	43.9%	3.7%	49.4%	4.1%
Kings	32.6%	2.9%	35.5%	3.1%
Madera	58.4%	4.7%	47.6%	4.0%
Mariposa	31.1%	2.7%	66.8%	5.2%
Merced	46.8%	3.9%	51.7%	4.3%
Mono	14.2%	1.3%	56.1%	4.6%
Monterey	24.6%	2.2%	31.7%	2.8%
San Benito	51.3%	4.2%	59.9%	4.8%
San Joaquin	49.1%	4.1%	56.9%	4.6%
San Luis Obispo	41.4%	3.5%	60.7%	4.9%
Santa Barbara	9.8%	0.9%	48.5%	4.0%
Santa Cruz	24.6%	2.2%	45.8%	3.8%
Stanislaus	49.2%	4.1%	67.3%	5.3%
Tulare	36.1%	3.1%	41.4%	3.5%
Tuolumne	30.7%	2.7%	52.6%	4.3%
Ventura	6.9%	0.7%	29.8%	2.6%
Central/Coastal	**32.8%**	**2.9%**	**47.5%**	**4.0%**
Imperial	26.1%	2.3%	35.6%	3.1%
Los Angeles	12.9%	1.2%	35.8%	3.1%
Orange	5.3%	0.5%	43.4%	3.7%
Riverside	78.8%	6.0%	106.7%	7.5%
San Bernardino	66.7%	5.2%	91.2%	6.7%
San Diego	27.6%	2.5%	54.5%	4.4%
South	**21.5%**	**2.0%**	**50.9%**	**4.2%**
Statewide	**20.1%**	**1.8%**	**46.7%**	**3.9%**

SOURCE: Demographic Reserach Unit, California Department of Finance. Projections made on June 25, 1990, and

FIGURE 3.5 Percentages of Enrollment by Ethnicity

Year	American Indian[1]	Asian	Black	Filipino	Hispanic	Pacific Islander	White
Historical[2]							
1979–80	0.9%	4.3%	10.0%	1.4%	23.4%	n/a	60.0%
1981–82	0.8%	5.5%	9.9%	1.6%	25.8%	n/a	56.4%
1984–85	0.8%	6.7%	9.7%	1.9%	27.9%	n/a	53.1%
1985–86	0.7%	6.6%	9.5%	2.0%	28.8%	0.5%	51.9%
1986–87	0.7%	7.0%	9.2%	2.1%	29.6%	0.5%	50.9%
1987–88	0.8%	7.3%	9.1%	2.1%	30.2%	0.5%	50.0%
1988–89	0.8%	7.6%	8.8%	2.2%	31.4%	0.5%	48.8%
1989–90	0.8%	7.8%	8.6%	2.2%	33.0%	0.5%	47.2%
10-Year Change	-0.1%	3.5%	-1.4%	0.8%	9.6%	0.5%	-12.9%
Projected							
1990–91	0.8%	7.9%	8.5%	2.2%	34.0%	0.6%	46.0%
1991–92	0.8%	8.1%	8.4%	2.3%	34.8%	0.6%	45.1%
1992–93	0.8%	8.3%	8.3%	2.3%	35.4%	0.6%	44.2%
1993–94	0.8%	8.5%	8.2%	2.4%	36.4%	0.6%	43.2%
1994–95	0.8%	8.7%	8.1%	2.4%	37.4%	0.6%	42.1%
1995–96	0.8%	8.9%	8.0%	2.4%	38.2%	0.6%	41.1%
1996–97	0.8%	9.1%	7.8%	2.4%	39.1%	0.6%	40.1%
1997–98	0.8%	9.3%	7.8%	2.5%	39.8%	0.6%	39.2%
1998–99	0.8%	9.5%	7.7%	2.5%	40.6%	0.6%	38.2%
1999–2000	0.8%	9.7%	7.7%	2.6%	41.2%	0.7%	37.4%
10-Year Change	0.1%	1.9%	-1.0%	0.3%	8.2%	0.1%	-9.7%

Note: Separate collection for Pacific Islanders began in 1985-86.

[1] Includes Alaskan Natives.
[2] Enrollment data by ethnicity were collected only periodically prior to 1984-85.

SOURCES: Historical data from Educational Demographics Unit, Program Evaluation and Research Division, California Department of Education. Projected data from Demographic Research Unit, California Department of Finance, 1990 Series.

as enrollments generally. The highest incidence of limited-English-proficiency occurs in the primary grades, but the rate of growth has been faster in the middle grades and high schools, reflecting substantial in-migration of older children. In the primary grades (K–3), one student in four is limited-English-proficient; in the middle grades (4–8), one student in six; and in high schools (grades 9–12), one student in eight has limited-English proficiency.

There are no projections of increases in the numbers of LEP students. However, changes in the federal immigration laws are expected to lead to a "softening" of the rapid expansion seen in the past several years. It is quite likely, though, that the numbers of LEP students will continue to expand more rapidly than enrollments generally.

Figure 3.7 categorizes primary languages among the state's limited-English-proficient students over the past five years. Spanish is the primary language of three out of four limited-English-proficient students. Its position as the predominant primary language among LEP students actually has strengthened in recent years. Significantly, no other primary language constitutes as much as 5 percent of total LEP enrollments, underscoring the immense instructional problems crafted by vast numbers of relatively small language minorities. Though absolute numbers remain low, the most rapid growth has occurred in the numbers of LEP students with the primary languages of Armenian (nearly a four-fold increase in the past five years) and Hmong (more than double five years ago).

PRIVATE SCHOOL ENROLLMENTS

Private schools currently educate approximately one of every ten school-age children in California. This figure represents a slight decrease from the 11.1 percent enrollment share that private schools represented at the beginning of the 1980s, and from their 1983–84 peak of 11.7 percent. Figures 8 and 9 display enrollment data for private schools during the 1980s and 1990s, respectively.[4]

Figure 3.8 shows that private school enrollments climbed at a 0.5 percent average annual pace during the last ten years, about one-third the rate of growth in public school enrollments. But in this case, the average is misleading because all of the growth occurred in the first half of the decade. Since 1985-86, private schools actually have lost enrollment each year.

Within the next four years, as shown in Figure 3.9, private schools are expected to return to their 1984–85 peak of 540,000 enrollments, and continue to grow at an annual average rate of 1.6 percent—less than half the growth rate of the public schools—through the end of the 1990s. By the end of the decade, only one California student in twelve will be enrolled in a private school.

There were 7,227 private schools operating in California during 1989–90, an increase of 45.4 percent from the previous five years. Growth in the number of private schools has come almost exclusively among those serving four or fewer students. These often are called "home schools." In 1984–85, only about one of every four private schools fell in this category. Today, every other one does. In other words, half the private schools in California serve four or fewer students.

The vast majority of private schools are coeducational (86.4% in 1989–90). Virtually all are now day schools (97.2%) versus residential boarding schools (2.8%), marking a decided decline in the percentage of residential boarding schools since 1984–85 when they represented 11 percent of the total.

Nonreligious private schools represented 37.1 percent of the total in 1989–90, about the same as five years ago. Of the religion-based private schools, 26.4 percent reported a formal church affiliation, while 36.5 percent did not. These percentages are almost the reverse of 1984–85 when 40.3 percent reported a church affiliation and 21.3 percent did not.

The private schools identifying a church affiliation in 1989–90 included: Roman Catholic (60.5%), Baptist (7.6%), Lutheran (6.1%), Seventh-Day Adventist (4.1%), Assembly of God (3.4%), Interdenominational (2.4%), Episcopal (1.9%), and Jewish (1.7%). This percentage breakdown is virtually the same as that reported five years ago.

FIGURE 3.6. Limited-English-Proficient Enrollments by Grade Level Groupings, 1985–86 through 1989–90

Year	Grades K–3			Grades 4–8			Grades 9–12			All Graded Enrollment		
	LEP	Total	%/Tot	LEP	Total	%/Tot	LEP	Total	%/Tot	LEP	Total	%/Tot
1985–86	270,977	1,356,164	20.0%	180,169	1,523,339	11.8%	106,643	1,300,762	8.2%	557,789	4,180,265	13.3%
1986–87	291,719	1,429,014	20.4%	194,746	1,566,608	12.4%	115,836	1,305,518	8.9%	602,301	4,301,140	14.0%
1987–88	311,247	1,499,465	20.8%	207,646	1,618,636	12.8%	122,652	1,289,806	9.5%	641,545	4,407,907	14.6%
1988–89	351,822	1,569,615	22.4%	240,588	1,676,698	14.3%	138,767	1,266,650	11.0%	731,177	4,512,963	16.2%
1989–90	397,586	1,632,388	24.4%	287,848	1,766,236	16.3%	164,338	1,269,871	12.9%	849,772	4,668,495	18.2%
5-Year Growth	146,241	346,179		121,239	252,149		67,410	(8,576)		334,890	589,752	
5-Year % Growth	58.2%	26.9%		72.8%	16.7%		69.5%	-0.7%		65.0%	14.5%	
Annual Average Growth	9.6%	4.9%		11.6%	3.1%		11.1%	-0.1%		10.5%	2.7%	

Notes: No projections are made of limited-English-proficient enrollments. As the Language Census Report gathers information by grade level, the total enrollment figures against which the counts of limited-English-proficient students are evaluated excluded ungraded enrollments.

SOURCE: Language Census Report for California Public Schools, 1990. Educational Demographics Unit, Program Evaluation and Research Division, California Department of Education.

FIGURE 3.7 **Limited-English-Proficient Enrollment by Primary Language, 1985–86 through 1989–90**

Language	1985–86	%	1986–87	%	1987–88	%	1988–89	%	1989–90	%	5-Yr Growth	Annual Average
Spanish	413,224	72.8%	449,308	73.3%	475,001	72.8%	553,498	74.5%	655,097	76.0%	72.2%	11.5%
Vietnamese	30,592	5.4%	30,906	5.0%	32,055	4.9%	32,454	4.4%	34,934	4.1%	16.5%	3.1%
Cantonese	19,784	3.5%	19,781	3.2%	20,291	3.1%	20,780	2.8%	21,154	2.5%	10.6%	2.0%
Cambodian	13,907	2.5%	15,665	2.6%	17,274	2.6%	18,111	2.4%	19,234	2.2%	79.3%	12.4%
Pilipino	13,450	2.4%	14,381	2.3%	14,945	2.3%	15,735	2.1%	16,338	1.9%	34.5%	6.1%
Hmong	8,784	1.5%	10,780	1.8%	13,311	2.0%	15,506	2.1%	18,091	2.1%	132.0%	18.3%
Korean	9,927	1.7%	10,738	1.8%	11,632	1.8%	12,193	1.6%	13,389	1.6%	44.8%	7.7%
Lao	8,959	1.6%	10,283	1.7%	11,452	1.8%	12,016	1.6%	12,177	1.4%	37.3%	6.5%
Armenian	2,419	0.4%	2,660	0.4%	3,851	0.6%	6,727	0.9%	9,046	1.0%	275.4%	30.3%
Mandarin	7,250	1.3%	7,334	1.2%	6,907	1.1%	6,809	0.9%	7,201	0.8%	2.7%	0.5%
Japanese	3,946	0.7%	4,125	0.7%	4,541	0.7%	4,947	0.7%	5,505	0.6%	49.6%	8.4%
Farsi	3,394	0.6%	3,881	0.6%	4,564	0.7%	4,652	0.6%	4,875	0.6%	71.1%	11.3%
Portuguese	2,508	0.4%	2,641	0.4%	2,663	0.4%	2,734	0.4%	2,830	0.3%	7.6%	1.5%
Arabic	2,148	0.4%	2,139	0.3%	2,210	0.3%	2,539	0.3%	2,771	0.3%	22.2%	4.1%
Other	27,272	4.8%	28,602	4.7%	31,742	4.9%	33,858	4.6%	38,889	4.5%	55.8%	9.3%
Total	**567,564**	**100.0%**	**613,224**	**100.0%**	**652,439**	**100.0%**	**742,559**	**100.0%**	**861,531**	**100.0%**	**64.4%**	**10.5%**
Increase	43,482		45,660		39,215		90,120		118,972			
% Increase	8.3%		8.0%		6.4%		13.8%		16.0%			

SOURCE: Language Census Report for California Public Schools, 1990. Educational Demographics Unit, Program Evaluation and Research Division, California Department of Education.

FIGURE 3.8 Private School Enrollments—Historical

Grade Level	1980–81	1981–82	1982–83	1983–84	1984–85	1985–86	1986–87	1987–88	1988–89	1989–90	Ten-Year % Growth	Annual % Growth
K	44,763	50,849	53,957	57,950	60,795	64,010	64,405	65,947	65,490	65,860	52.8%	4.3%
1st	48,805	51,631	53,179	55,449	56,441	56,474	57,189	57,395	57,674	56,040	20.4%	1.9%
2nd	44,509	47,279	48,129	50,002	51,034	50,956	51,004	51,920	52,446	51,425	17.7%	1.6%
3rd	43,384	44,249	45,448	46,292	47,015	47,464	47,113	47,308	48,025	47,928	9.0%	0.9%
4th	43,562	43,113	42,606	43,776	43,770	43,782	43,639	43,870	43,872	44,098	-0.2%	0.0%
5th	43,554	43,772	41,320	41,115	41,521	41,089	40,569	40,799	41,216	40,737	-5.0%	-0.5%
6th	42,418	44,135	42,655	40,424	39,187	39,299	38,568	38,186	38,607	38,909	-3.7%	-0.4%
7th	41,200	43,570	43,379	41,716	38,712	36,903	36,652	35,826	35,875	36,725	-8.0%	-0.8%
8th	37,931	39,842	40,693	40,682	38,788	35,878	34,155	33,967	33,755	33,746	-10.6%	-1.1%
Subtotal	**390,126**	**408,440**	**411,366**	**417,406**	**417,263**	**415,855**	**413,294**	**415,218**	**416,960**	**415,468**	**8.6%**	**0.8%**
9th	34,218	35,362	35,634	36,099	35,730	33,688	31,417	29,919	29,767	30,663	-9.4%	-1.0%
10th	30,778	31,090	31,361	31,864	32,274	32,118	30,423	28,652	26,877	27,900	-9.2%	-1.0%
11th	27,932	28,334	28,073	28,564	28,588	29,011	29,168	27,697	25,673	24,763	-7.8%	-0.8%
12th	24,346	25,787	25,640	26,028	26,272	26,248	26,881	27,075	25,445	24,148	1.5%	0.1%
Subtotal	**117,274**	**120,573**	**120,708**	**122,555**	**122,864**	**121,065**	**117,889**	**113,343**	**107,762**	**107,474**	**-6.7%**	**-0.7%**
TOTAL	**507,400**	**529,013**	**532,074**	**539,961**	**540,127**	**536,920**	**531,183**	**528,561**	**524,722**	**522,942**	**5.1%**	**0.5%**
Increase	9,788	21,613	3,061	7,887	166	-3,207	-5,737	-2,622	-3,839	-1,780		
% Increase	2.0%	4.3%	0.6%	1.5%	0.0%	-0.6%	-1.1%	-0.5%	-0.7%	-0.3%		
% of Total Enrollment	11.1%	11.6%	11.7%	11.5%	11.2%	10.8%	10.5%	10.2%	9.9%	9.6%		

Note: Although ungraded enrollments occur in private schools, the absolute numbers are small, and the Department of Finance chooses to allocate the ungraded enrollments pro rata across the grades. PACE has elected to display the data in this way to be consistent with the projections in Figure 3.7. However, because of the allocation of the ungraded enrollments, the figures for individuals grade levels (though not the overall totals) are slightly higher than the actual counts published by the Educational Demographics Unit, Program Evaluation and Research Division, California Department of Education.

SOURCE: Demographic Research Unit, California Department of Finance.

FIGURE 3.9 Private School Enrollments—Projected

Grade Level	1990–91	1991–92	1992–93	1993–94	1994–95	1995–96	1996–97	1997–98	1998–99	1999–2000	Ten-Year % Growth	Annual % Growth
K	69,535	71,225	74,335	78,673	79,780	81,860	83,870	85,686	85,527	85,288	29.5%	2.6%
1st	57,733	60,993	62,448	65,149	68,915	69,895	71,731	73,507	75,116	74,992	33.8%	3.0%
2nd	49,837	51,342	54,229	55,498	57,887	61,210	62,081	63,714	65,288	66,723	29.7%	2.6%
3rd	46,829	45,387	46,772	49,392	50,542	52,726	55,751	56,548	58,043	59,481	24.1%	2.2%
4th	43,929	42,926	41,622	42,886	45,269	46,310	48,304	51,058	51,786	53,153	20.5%	1.9%
5th	40,973	40,823	39,902	38,682	39,866	42,070	43,034	44,880	47,422	48,099	18.1%	1.7%
6th	38,349	38,590	38,463	37,593	36,459	37,562	39,641	40,542	42,275	44,663	14.8%	1.4%
7th	36,576	36,063	36,287	36,177	35,342	34,288	35,315	37,266	38,113	39,739	8.2%	0.8%
8th	34,333	34,180	33,709	33,927	33,836	33,061	32,066	33,020	34,840	35,634	5.6%	0.5%
Subtotal	**418,094**	**421,529**	**427,767**	**437,977**	**447,896**	**458,982**	**471,793**	**486,221**	**498,410**	**507,772**	**22.2%**	**2.0%**
9th	30,181	30,708	30,493	30,034	30,206	30,104	29,416	28,553	29,381	31,024	1.2%	0.1%
10th	28,083	27,630	28,130	27,922	27,504	27,671	27,566	26,943	26,160	26,915	-3.5%	-0.4%
11th	25,395	25,569	25,149	25,612	25,413	25,020	25,180	25,057	24,490	23,786	-3.9%	-0.4%
12th	23,008	23,585	23,762	23,366	23,802	23,603	23,237	23,399	23,275	22,762	-5.7%	-0.6%
Subtotal	**106,667**	**107,492**	**107,534**	**106,934**	**106,925**	**106,398**	**105,399**	**103,952**	**103,306**	**104,487**	**-2.8%**	**-0.3%**
TOTAL	**524,761**	**529,021**	**535,301**	**544,911**	**554,821**	**565,380**	**577,192**	**590,173**	**601,716**	**612,259**	**17.1%**	**1.6%**
Increase	1,819	4,260	6,280	9,610	9,910	10,559	11,812	12,981	11,543	10,543		
% Increase	0.3%	0.8%	1.2%	1.8%	1.8%	1.9%	2.1%	2.2%	2.0%	1.8%		
% of Total Enrollment	9.6%	9.3%	9.0%	8.8%	8.6%	8.4%	8.3%	8.2%	8.1%	8.0%		

Note: Although ungraded enrollments occur in private schools, the absolute numbers are small, and the Department of Finance chooses to allocate the ungraded enrollments pro rata across the grades.

SOURCE: Demographic Research Unit, California Department of Finance.

DIFFERENCE BETWEEN ENROLLMENT AND AVERAGE DAILY ATTENDANCE

Another chapter of this document discusses education financing (Chapter 8), the bulk of which is distributed on the basis of average daily attendance (ADA). ADA, simply stated, is the average of the number of pupils actually attending school or having excused absences over a given time period. ADA is reported to the state three times for each school year, twice during the year (for purposes of the first and second principal apportionments) and once after the year is over (for purposes of annual apportionment corrections for some programs). Enrollment, in contrast, is sampled only once each year in the month of October.

ADA counts customarily are lower than enrollment counts, reflecting unexcused absences and the tendency for enrollments to decline as a school year progresses, especially at the higher grade levels. Like enrollment, ADA is aggregated in different ways for different purposes, so it is not possible to provide a single percentage figure reflecting the relationship between the two. Enrollment counts are more useful for research purposes, because more detail is known about them, such as ethnic, gender, and grade-level composition. ADA counts, by contrast, are simple totals and, because of the multiple reporting periods, are more confusing to work with for any given year.

There is one set of circumstances under which ADA counts can exceed enrollments. For some purposes, students can be counted more than once. For example, if a student is concurrently enrolled in a public secondary school and an Adult Education or Regional Occupation Center or program, or attends summer school, ADA for financial reimbursements might exceed actual enrollments.

CONCLUSION

No state in the nation faces the challenge of growth like California. The state is adding enough students to open a new school each day. Moreover, this challenge is made all the more intense by the diversity of languages spoken by these students. It is likely that no nation in history, let alone another state, has ever faced a challenge of this magnitude.

[1] Source: *Rankings of the States, 1990*, Research Division, National Education Association; Table B–2, p. 10.

[2] In other words, there were fewer third graders in 1981–82 than in the preceding and following years. Then, as that cohort moved into the fourth grade in 1982–83, there were more fourth graders in the preceding and following years.

[3] No other agency produces projections of this type. The Commission on State Finance publishes projections of average daily attendance, but these reflect the same percentage intervals as the Department of Finance's enrollment projections.

[4] Department of Finance.

Chapter 4

Human Resources

This chapter is about California education's "human resources," the teachers and administrators who spend their professional lives with students in the state's schools and classrooms. Periodic efforts have been undertaken to assess California's education professionals. Their characteristics have been arrayed in terms of statistics, demographics, programs, and policies.

One such California assessment resulted in *Who Will Teach Our Children?* Released in 1985, the report was the product of a fifteen month effort by the California Commission on the Teaching Profession (often called the Commons Commission after its chair, the late Dorman Commons). The commission, a prestigious panel of corporate executives, university academics, and professional educators, was sponsored by the state superintendent of public instruction and the chairs of the Assembly and Senate education committees.

Who Will Teach Our Children? painted a grim portrait of a profession in trouble. Among the adverse conditions for education professionals cited by the commission were low salaries, low public esteem, increasing conflict between teachers and administrators, deficiencies in professional training and support, absence of appropriate professional standards, and lack of professional career choices. The report challenged the state to reconceptualize the recruitment, preparation, roles, and responsibilities of the state's public school educators.[1]

Not all of the report's ideas universally were embraced. But *Who Will Teach Our Children?* was hailed widely for its bold recommendations to improve the education profession.

HIGHLIGHTS

- California employed more than 212,000 classroom teachers in 1990.
- Demand for teachers is increasing; enrollments in teacher preparation programs is declining.
- California will need to hire 75,000 new teachers by 1995 to keep pace with enrollment growth.
- The state has a particularly acute need for minority teachers, but has undertaken no comprehensive effort to recruit minority professionals.
- Class sizes in California remain the second highest in the nation.
- College and university teacher preparation programs pay insufficient attention to preparing new teachers to instruct diverse student populations.
- New teachers' enthusiasm for their career is dampened by limited salary increase opportunities and a "flat" career structure, but not by the prospect of a performance examination or formal internship.
- Although more than five years ago a prestigious state-appointed commission made specific policy recommendations in the area of preparing education professionals, creating a professional work environment, and anticipating future needs, the majority of those recommendations have received little California policy attention.

Who Will Teach Our Children? was released a half decade ago. In the intervening five years, many events have played themselves out on California's education stage. Now seems an appropriate time to take a step back, revisit the recommendations of the California Commission on the Teaching Profession and review the path California has taken.

This chapter explores the status of California's teachers and administrators within the context of three broad categories encompassed by the Commons Commission report: 1) preparing education professionals, 2) creating a professional work environment, and 3) anticipating future needs. The chapter sets forth specific recommendations of the Commons Commission, describes current California policies and programs, and assesses the degree to which state education policy has incorporated commission proposals.

It begins with a statistical profile of California's teachers and administrators.

A STATISTICAL PROFILE OF CALIFORNIA TEACHERS AND ADMINISTRATORS

California elementary and secondary public schools employed 245,733 certificated personnel in 1989–90. This number includes classroom teachers, administrators, specialists, and other nonteaching professionals.

More than 200,000 classroom teachers (212,071) were on California school district payrolls in 1989–90. This number represents 86 percent of all certificated employees serving in California schools. Most teachers (82%) are white. Hispanics constitute slightly more than 7 percent (7.2%) of the teaching force, blacks 5.7 percent (down from 6.1% two years ago), and Asians 3.4 percent. Men compose less than a third (30.4%) of the K–12 teaching population.

The average California teacher is nearly 42 years old (41.7 years) and has taught for 15 years. However, this average masks substantial diversity. More than one-quarter (28.6%) of the state's teachers have taught for more than twenty years. A large complement of California teachers is new to the profession. Twenty-three percent of the state's teachers have five or fewer years of teaching experience.

More than one-third (34.5%) of California teachers hold master's degrees. The average teacher salary in California in 1989–90 was $37,625, reflecting a 6.0 percent increase over 1988–89. California's teacher salaries rank fifth among all states. Data from the California Basic Education Data System (CBEDS) indicate that the average base teacher salary in 1988-89 was 12 percent higher (after inflation) than the average base salary in 1982-83.

The legislative analyst recently completed an analysis of the increase in teacher salaries in California. The analyst's report suggests that increases were caused by one of three factors: increased teacher quality, as measured by experience or education; increased teacher workload; or higher pay for the same work. The analyst's report concludes that 7.5 percent of the 12 percent base salary increase is attributable to increased pay for the same work.

California's 18,171 administrators comprise 7.4 percent of the total K–12 certificated staff. The average California school administrator is nearly 47 years old (46.4 years), white (76.7%), male (54.3%), and has at least 21 years of experience in education. Minorities represent a larger share of administrator positions than teacher positions. In 1989–90, 8.9 percent of all administrators were black, 10.2 percent were Hispanic, and another 4.1 percent represented other minority groups, for a total of 23.2 percent minority administrators. However, slightly less than five percent (4.4%) of superintendents are members of a racial or ethnic minority group.

Women accounted for nearly 46 percent (45.7%) of all administrators in 1989. However, just 11 percent of superintendents were female. Nearly 88 percent (87.9%) of California administrators hold at least a master's degree. Nearly 12 percent (11.4%) have earned doctorates.

The average salary for a California superintendent in 1988–89 was $63,248. Other California administrators earned an average of $49,518.

PREPARING EDUCATION PROFESSIONALS

The California Commission on the Teaching Profession recommended the following in the area of equipping teachers to assume their professional responsibilities:

° Eliminate the process of certifying teachers on the basis of courses they have taken in favor of testing individual candidates.

° Replace the Commission on Teacher Credentialing with a California Teaching Standards Board, comprised of a majority of teachers, to establish standards and assessments for entry and advancement in the profession.

° Replace the California Basic Educational Skills Test (CBEST) with rigorous assessments of general knowledge, reading skills, writing ability, mathematical reasoning, and other elements of a liberal education.

° Grant a clear credential after successful completion of a teaching residency (sixth year) and passage of state examinations of competence in subject matter to be taught, command of relevant knowledge of teaching and learning, and on-site assessment of instructional skill and classroom management.

° Replace the emergency credential with an alternate route to certification.

° Establish a "board certified" classification which teachers with five or more years of experience might earn by successful completion of additional coursework and passing an advanced examination in teaching.

The next several sections of this chapter describe California's current system for preparing and certifying teachers. An additional section discusses the preparation of California school administrators, a topic not explicitly included in Commons Commission recommendations.

The Commission on Teacher Credentialing

The Commission on Teacher Credentialing (CTC) is an autonomous board which serves as the licensing agency for California teachers and administrators. CTC establishes certification requirements, establishes program approval standards, conducts research related to the licensure of education professionals, evaluates programs to ensure that standards are met, and administers required testing programs.

Composition of the CTC was altered in 1988 as a result of Senate Bill 148 by Senator Marian Bergeson. As of July 1, 1989, teachers comprise the largest single set of commission members. The newly constituted fifteen-member Commission on Teacher Credentialing now consists of six classroom teachers, one "other credential" holder, four members of the public, one representative of institutions of higher education, one school administrator, one member of a local school district governing board, and the superintendent of public instruction.

While CTC offers final authorization for the issuance of credentials, California maintains the "program approval" method of teacher certification. Candidates who complete CTC-approved college or university programs of professional preparation are recommended to CTC for either a preliminary or a clear credential. The major requirement for a clear credential is completion of a fifth year (one additional year beyond the Baccalaureate) of study. Seventy-percent of California teaching credential holders receive their professional preparation at one of the California State University campuses.

A set of state-determined competencies must be demonstrated by each candidate prior to certification. However, each credential program determines how these competencies are to be met. Among the required competencies ar: knowledge of professional and legal requirements and responsibilities, understanding of cultural differences, evaluation of student achievement, classroom organization and management, use of multiple teaching techniques, and demonstrated knowledge of the theories of teaching reading.

Numbers and Types of Credentials Issued[2]

The Commission on Teacher Credentialing issues a variety of different credentials authorizing teaching and administrative service. These include the multiple subject, multiple subject with bilingual emphasis, single subject, single subject with bilingual emphasis, specialist instruction, and school services credential.

The multiple subject credential authorizes the holder to teach self-contained classes in grades kindergarten through twelve. Since most self-contained classes exist in elementary schools, the multiple subject credential most often is sought by prospective elementary teachers.

In 1988–89, 16,909 candidates were enrolled in preparation programs for the multiple subject credential, a decrease of 1 percent from the previous year. California colleges and universities recommended 7,526 multiple subject credential candidates to CTC in 1988–89, reflecting an overall decline of 11 percent from 1987–88. California has an increasing need for credentialed bilingual teachers. Of the 16,909 individuals enrolled in multiple subject credential programs in 1988–89, only 7 percent (1,141) were enrolled in bilingual emphasis programs, a decrease of 3 percent from 1987–88. Nearly all of those enrolled in these programs (96%) were Spanish bilingual candidates. Of the remainder, 2 percent were in Chinese, 1 percent were in Cantonese, and less than 1 percent were in Vietnamese bilingual programs.

Slightly more than three hundred individuals (301) were recommended for multiple subject with bilingual emphasis credentials in 1988–89, a decline of 10 percent from 1987–88. Ninety-seven percent of the recommended candidates were in Spanish bilingual programs; the remaining 3 percent were in Cantonese and Vietnamese bilingual programs.

The single subject credential, typically earned by individuals desiring to teach in secondary schools, authorizes the holder to teach a particular subject in a departmentalized setting. Single subject credentials may be earned in one or more of sixteen subject areas: agriculture, art, business, English, foreign language, government, health science, history, home economics, industrial arts, life science, mathematics, music, physical education, physical science, and social science.

A total of 8,598 candidates was enrolled in single subject credential programs in 1988–89. Of the sixteen possible credential subject areas, only enrollments in history and health sciences increased. Enrollments in other subject areas declined at rates between 25 and 46 percent.

More than 4,000 individuals (4,268) were recommended to CTC for single subject credentials in 1988–89. As can be seen from Figure 4.1, all subject areas posted a decline.

The greatest concentration of programs requiring bilingual certification is offered at the elementary level. Thus, very few individuals seek secondary bilingual education credentials.

In 1988–89, 104 candidates were enrolled in such programs. All candidates were enrolled in English-Spanish bilingual programs.

FIGURE 4.1 Changes in Numbers of Single-Subject Credentials Recommended, 1987–88 to 1988–89

Type of Credential	Percent Change Since 1987–88
Music	-47%
Physical science	-43%
Home economics	-38%
Social science	-36%
Foriegn language	-35%
History	-35%
English	-34%
Government	-33%

SOURCE: California Commission on Teacher Credentialing

Thirty-one individuals were recommended to CTC for single subject teaching credentials with bilingual emphasis in 1988-89, down from 47 in 1987–88. Thirty of the recommendations were for teaching in English and Spanish; one was for teaching in English and Vietnamese.

Specialist instruction credentials are available to individuals who pursue additional graduate work in a variety of fields, including early childhood education, language development, mathematics, reading, gifted, and several special education categories. Figure 4.2 displays percent changes in enrollments and recommendations for 1988-89.

As can be seen, enrollments in six of the specialist instruction categories increased, with programs leading to the language development credential reflecting the largest gains. Enrollments decreased in four specialist instruction categories. No individuals were enrolled in programs leading to the mathematics specialist credential.

Recommendations to CTC for specialist instruction credentials increased in six areas. Again, language development

FIGURE 4.2 Specialist Instruction Credentials, 1988–89

Type of Credential	Enrollments, % change since 1987–88	Recommendations, % change since 1987–88
Early Childhood Education	-42%	+9%
Mathematics Specialist	-100%	-100%
Gifted and Talented	+30%	no change
Language Development	+74%	+33%
Reading Specialist	+17%	+24%
Special Education		
Resource Specialist	-1%	+5%
Visually Handicapped	-5%	-29%
Communication Handicapped	+37%	+9%
Learning Handicapped	+11%	-1%
Severely Handicapped	+13%	-18%

SOURCE: California Commission on Teacher Credentialing

FIGURE 4.3 School Services Credentials, 1988–89

Type of Credential	Enrollments, % change since 1987–88	Recommendations, % change since 1987–88
Administrative Services	-14%	+13%
Clinical-Rehab Services	-20%	-14%
Health Services	-3%	+26%
Library Servicest	-39%	-14%
Pupil Personnel Services	-10%	-6%
School Psychology Services	-31%	-24%

SOURCE: California Commission on Teacher Credentialling

led the way. Candidates seeking credentials to teach visually handicapped students showed the most significant decline.

School services credentials may be earned by individuals who wish to serve as school administrators, counselors, psychologists, librarians, health service providers, and speech and hearing clinicians. As Figure 4.3 shows, enrollments in all service credential programs declined in 1988–89.

Recommendations for credentials increased in only two school services categories—administrative services and health services. All other categories posted declines.

California Basic Educational Skills Test (CBEST)[3]

The California Basic Educational Skills Test (CBEST) was administered for the eighth year in 1989–90. This exam is a test of basic skills in reading, writing, and mathematics.

Under current CTC regulations, CBEST is required for first-issue teaching and administrative credentials, for admission to some teacher preparation programs, and for individuals returning to teaching after an absence of 39 months or longer from the classroom. Those who fail to pass CBEST on their first attempt may take the test as often as they like, but are not required to retake any section passed previously. Typically, passing rates decline for individuals who take the test multiple times.

In 1989–90, 40,353 individuals took CBEST. This number reflects a 7 percent increase from 1988–89 in first-time CBEST takers. The eighth-year passing rate remained identical, at 74 percent, to the seventh year passing rate. Importantly, a higher percentage of nonwhites were first-time test takers in 1989–90 (20.3%) than was the case in 1988–89 (18%).

Although the exam was not designed as an admission test, an increasing number of teacher preparation programs are using CBEST results to screen potential teacher-training enrollees. Three-fourths of this group (75%) passed the test on the first attempt.

Seventy-five percent of individuals who took CBEST in 1989–90 once they had been admitted to a professional preparation program passed the test on their first attempt, an increase of two percent over the previous year. The percent of individuals who took and passed CBEST once they had started student teaching was 67 percent.

Nearly six percent (5.9%) of individuals taking CBEST in 1989–90 planned to apply for a teaching credential with bilingual emphasis. Passing rates for this group of test takers continued to be lower than for test takers seeking a credential without bilingual emphasis.

Figure 4.4 displays CBEST passing rates according to type of credential sought. As this figure reveals, the passing rate for individuals seeking a multiple-subjects (elementary) credential with bilingual emphasis was more than 25 percent lower than the passing rate for nonbilingual credential seekers. The CBEST passing rate for individuals seeking a single-subject credential with bilingual emphasis was nearly 25 percent below the passing rate of prospective nonbilingual secondary teachers. Overall passing rates were highest for individuals seeking emergency credentials and administrative services credentials.

The passing rates on each section of the test for first-time test takers rose between 1988–89 and 1989–90. In 1989–90, 88 percent of first timers passed the reading portion of CBEST, compared to 85 percent in 1988–89. Eighty-six percent passed the math section on the first try in 1989–90, compared to 82 percent the previous year. Passing rates on the writing section displayed improvement as well. Eighty-two percent

FIGURE 4.4 CBEST Passing Rates by Credential Sought, 1989–90

Credential Sought	Number Tested	Percent Passing	% Change from 1988–89
Multiple subject	5,673	71%	+2%
Multiple subject, with bilingual	684	45%	+3%
Single subject	3,820	76%	no change
Single subject, with bilingual	298	52%	-2%
Emergency teaching	3,721	80%	+2%
Administrative services	740	79%	+1%
Pupil personnel services	795	75%	no change

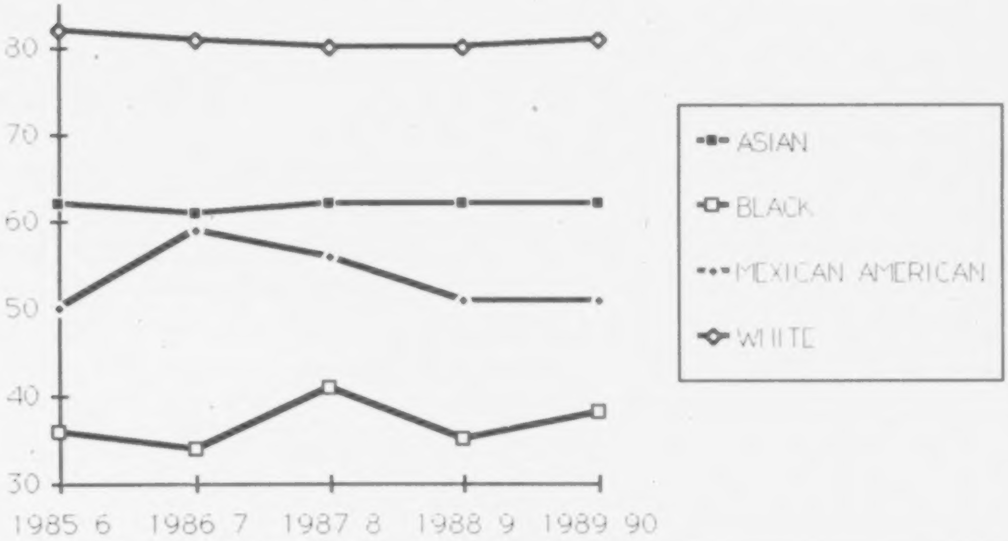
SOURCE: California Commission on Teacher Credentialing

FIGURE 4.5 CBEST Passing Rates by Ethnicity, 1989–90

Ethnic Background	Number Tested	% of Total Taking Test	Percent Passing	% Change from 1988–89
Asian	1,336	3.4%	67%	no change
Black	2,119	5.4%	38%	+3%
Mexican American	2,451	6.1%	51%	no change
Other Hispanic	1,072	2.7%	48%	-2%
White	32,148	79.1%	81%	+1%
Other groups	1,197	3.3%	63%	+2%

SOURCE: California Commission on Teacher Credentialing

FIGURE 4.6 CBEST Passing Rates by Ethnicity



SOURCE: California Commission on Teacher Credentialing

passed on their first attempt in 1989–90, compared to 79 percent in 1988–89.

Minority CBEST attempts and passing rates also are recorded. These statistics are displayed in Figure 4.5. As can be seen, whites maintained the highest passing rate and comprised the largest percent of test takers. Blacks increased their CBEST passing rate by 3 percent over 1988-89, while scores for non-Mexican-American Hispanics declined by 2 percent. Barely half of Mexican-Americans who attempted CBEST for the first time in 1989-90 passed the exam.

Passing rates for individuals who repeat CBEST remained significantly lower than passing rates for first-time test takers. In 1989–90, the passing rate for individuals taking the test for the second time was 39.5 percent. For those repeating the test for the third time, the passing rate was 26.5 percent. Fewer than one-fifth (17.9%) of individuals who took CBEST for at least the third time passed the test in 1989–90.

California New Teacher Project[4]

The California New Teacher Project was established by Senate Bill 148 (Bergeson) in 1988. The purpose of the project is to explore and evaluate alternative models for new teacher support and assessment and to evaluate the costs and benefits of alternative models of induction. The legislation which brought the program into being contemplated the New Teacher Project as a pilot effort leading to a teaching residency.

The New Teacher Project is jointly administered by the California Department of Education and the Commission on Teacher Credentialing. As of December 1990, more than 1,900 first- and second-year teachers in school districts throughout the state were participating in the project.

The project is a "test" of various forms of intensive professional development for new teachers, all of whom are supported by a team of experienced colleagues. Among the research questions inherent in the project are: "Will new teachers be assisted by additional support?," "Who should provide support to new teachers?," and "How should teacher assessment practices for state licensing purposes be changed?"

Components of the New Teacher Project are locally governed and managed. Some of the thirty-seven experimental efforts are conducted by individual school districts; in some instances, the project is a collaborative effort of a school district and a local college or university; other projects are operated by large consortia of county offices, school districts, and institutions of higher education.

The projects focus on methods for assisting new teachers as well as for assessing beginning teachers' ability to integrate subject matter knowledge with teaching skills and teach children from diverse backgrounds. Some of the programs emphasize classroom management and general instructional skills. Others concentrate on curriculum reforms or enhancing new teachers' effectiveness with language minority students. Several of the project models are exploring collaborative relationships between universities and school districts which bridge the gap between teachers' preservice preparation and their initial years of teaching.

The assessment component of the project represents a conscious effort to move away from the classic paper-and-pencil test of teaching competency to more "real life" experiences. The skills of novice teachers are being assessed via interviews, classroom observations, assessment center activities, and professional portfolios.

An evaluation of the New Teacher Project is being conducted by the Southwest Regional Laboratory. The first-year evaluation of the project, completed in spring 1990, was limited to the fifteen original pilot participants.

Among the most significant findings of the first-year evaluation are the following:

° New teachers report they need additional assistance, beyond that provided by their college or university preparation program, in learning to instruct diverse groups of students.

° Programs appear to be most effective when novice teachers receive both support from their more experienced colleagues and ~~specific training~~ from their mentors in teaching content and skills.

° Teachers only recently entering the profession report that the prospect of a performance examination or formal internship does not dampen their interest in a teaching career, but limited salary increase opportunities and a "flat" career structure do.

Evaluators also calculated the cost of the new teacher effort. The average cost per new teacher was approximately $5,500, of which $3,800 came from state project funds and the remainder was appropriated from local resources.

The New Teacher Project has been eliminated from the governor's 1991 budget.

An Alternate Route to Teacher Certification

The traditional route to teacher certification is via a program conducted by an institution of higher education. Nationally, concern about the supply and quality of available teachers has led to the development of alternative programs which allow college educated individuals to teach without completing an approved teacher education program.

These "alternative certification" programs often are criticized by members of the education community, who contend that grounding in teaching pedagogy is an essential prerequisite to effective classroom practice. Advocates of alternative certification programs maintain, in part, that bypassing conventional teacher preparation programs provides a way for districts to replace emergency credentialed teachers with individuals who possess field-based professional training.

The California Teacher Trainee Program was established in 1984 as part of Senate Bill 813. The program was envisioned by the state as a way to encourage second career professionals into teaching. Originally limited to prospective teachers in grades 9–12, legislation signed into law in 1987 allowed school districts to employ teacher trainees in grades K–8, expanded the program to include bilingual teachers, and renamed it the District Intern Program.

A school district desiring to employ an intern must certify to the Commission on Teacher Credentialing that fully credentialed teachers are unavailable in the required grades or subjects. The district must also be participating in the state's Mentor Teacher Program.

The prospective intern is required to possess a bachelor's degree and must pass both the CBEST and the National Teacher's Exam (NTE) in the appropriate subject area or discipline. To qualify for a teaching credential, the intern must teach successfully for two years under the supervision of a mentor teacher and must complete a professional preparation program developed in consultation with the employing school district and a cooperating college or university.

A July 1990 report, commissioned by the Office of Educational Research and Improvement (OERI), presents preliminary findings from an evaluation of the District Intern Program in the Los Angeles Unified School District.[5] Los Angeles is the largest "user" of the intern route to certification. Since 1984, LAUSD has recruited and trained 1,100 new teachers, or nearly 96 percent of the candidates for alternative certification in California. The program now annually prepares nearly 300 new teachers.

The basic structure of the Los Angeles Intern Program is similar to that of a college-based program. However, the LAUSD program focuses on preparing individuals to use the district's approach to curriculum and instruction. According to the OERI report, "Although the [Los Angeles] program provides courses, these courses require little academic work."

District interns teach fulltime while participating in a two-year program developed and administered by the district's staff development personnel. The program includes an emphasis on multicultural education.

In most college or university preparation programs, recommendation for a teaching credential is based on successful completion of university coursework, including written essays and examinations, and a positive evaluation from a university supervisor. In the LAUSD program, the main criteria for being recommended for a teaching credential is a positive evaluation from the school principal based on two years of teaching experience in an urban school.

The OERI study also found that:

- The Intern Program is decreasing the number of teachers with emergency credentials teaching in Los Angeles schools, but is not affecting the recruitment of individuals from traditional teacher preparation programs.
- LAUSD has been able to use its Intern Program to recruit teachers in three particular shortage areas—science, mathematics, and elementary bilingual education. Between 1984 and 1990, the program recruited 257 science teachers and 184 math teachers. In 1989–90 alone, one quarter of the district's bilingual teachers were recruited through the Intern Program.
- The Los Angeles Intern Program has attracted minority candidates. Since the program's initiation in 1984, nearly one-third of teachers recruited by this method have been members of racial or ethnic minority groups. Of the intern recruits, 42 percent were Hispanic, 30 percent were black, 21 percent were Asian, and the remaining 7 percent were American Indian, Filipino, or Pacific Islander.

The study concluded that LAUSD interns are more favorably disposed toward working in urban schools. Approximately 70 percent of interns, compared to 30 percent of graduates of conventional teacher education programs, reported they would prefer teaching in an urban setting.

LAUSD interns cite three reasons for selecting the alternative certification program over a traditional teacher preparation program: (1) financial need, (2) belief that they could better learn to teach "on the job," and (3) reluctance to enroll in additional university coursework.

The OERI report concludes that, while the alternative route program is not a replacement for conventional higher education teacher preparation programs, "it is a context-specific [teacher] recruitment policy [in which] the training is oriented toward helping teachers succeed in the LAUSD schools." In sum, the report raises questions about the academic rigor of the LAUSD program, but praises the program's "hands-on" approach to learning to teach as well as its efforts to equip teachers to teach in inner city schools with multicultural student populations.

National Organizations Influencing California's Teacher Preparation

California maintains an autonomous teacher credentialing structure and system. Nonetheless, national organizations and trends influence, or potentially influence, certification methods and standards for the state's teachers.

We now look briefly at two of these organizations—The National Council for the Accreditation of Teacher Education and the National Board for Professional Teaching Standards.

National Council for Accreditation of Teacher Education

The National Council for Accreditation of Teacher Education (NCATE) accredits five hundred schools of education nationwide. Although NCATE is a voluntary association, several states require NCATE accreditation for schools of education.

Accreditation entails application to NCATE by the institution seeking review and development of a self-study report, describing the manner in which the institution meets NCATE's eighteen professional program standards. The final step in the process is a visit from an NCATE-appointed team which makes a recommendation to NCATE's Unit Accreditation Board regarding accreditation status for the institution under review.

California does not require NCATE accreditation for schools of education. Nonetheless, twelve schools, colleges, and departments of education in the state subscribe to NCATE's accreditation procedures. These NCATE "members" include ten schools of education on campuses of the California State University system and education departments in two private institutions of higher education.

NCATE accreditation is neither *pro forma* nor automatic. In fall 1990, NCATE rejected more than one-third of the education schools up for accreditation.[6] Among those institutions for which accreditation was denied was the school of education at San Jose State University.

National Board for Professional Teaching Standards

The impetus for the National Board for Professional Teaching Standards developed from the report of the Carnegie Forum on Education and the Economy, *A Nation Prepared: Teachers for the 21st Century*. The Carnegie report recommended that "a National Board for Professional Teaching Standards ... be created to establish standards for high levels of competence in the teaching profession, to assess the qualifications of those seeking board certification, and to grant certificates to those who meet the standards."[7]

The National Board began to operate in October 1987. The board's mission is, "to establish high and rigorous standards for what teachers should know and be able to do, to certify teachers who meet those standards, and to advance related education reforms for the purpose of improving student learning in American schools."[8]

The National Board is independent, nonpartisan, and nonprofit. Comprised of sixty-nine influential individuals, it is chaired by James Hunt, former governor of North Carolina. Board members include practicing teachers and school administrators, teacher educators from institutions of higher education, chief state school officers, state governors, corporate executives, community leaders, and the presidents of the nation's two major teacher unions.

Beginning in 1993, the National Board will make available certification covering four developmental levels: early childhood (ages 3-5), middle childhood (ages 7-12), early adolescence (ages 11-15), and adolescence/young adulthood (ages 14-18). Eventually, the board will offer certificates in thirty fields for both discipline specialists and for teachers who provide instruction across the curriculum. Board certification also will be developed for special education and English-as-a-Second-Language teachers.

National Board certification is designed to be voluntary. Individual states and districts will determine what responsibilities or compensation, if any, are accorded board-certified teachers. The two prerequisites a teacher will be required to satisfy prior to seeking board certification are completion of a baccalaureate degree and three years of successful classroom teaching. In a 1990 decision that was hotly debated and highly controversial, the board decided completion of a teacher preparation program would not be a prerequisite to seeking board certification.

Assessment leading to board certification will require teachers to display actual knowledge of, and skill in, teaching. Judgement as to candidates' fitness for certification will be made by teaching colleagues.

Administrator Preparation in California

The Commons Commission concentrated its research and recommendations principally on restructuring and reorienting the teaching profession. An obvious corollary to teaching career reform involves the examination of preparation programs and support for school administrators.

Administrator Credential Programs

Since 1985, the Commission on Teacher Credentialing has provided two levels of administrative credentials. The preliminary administrative services credential allows individuals to serve in any K-12 administrative position for up to five years. In order to secure this credential, individuals must meet the following requirements:

- hold a valid California teaching credential
- have completed at least three years of fulltime teaching
- have finished 24 semester units in a CTC-approved administrator preparation program
- have served administrative internships at two of three levels (elementary, middle, secondary), one of which must be in a school at which at least 20 percent of the students are of a different ethnic background than the candidate.

During coursework and internships, credential candidates must demonstrate competencies in the following areas: educational leadership, improving the education program, management of educational personnel, school-community relations, legal and financial aspects of public education, educational governance and politics, strategic planning, contract management, utilization of staff, implementation of personnel policies, planning procedures for staff and facilities, and development of community support.

Upon completion of two years in a position that requires the preliminary credential, administrators may initiate study on the second credential tier which leads to the professional administrative services credential. This credential allows individuals to serve in any K-12 administrative position and may renewed without additional coursework or professional development.

To earn a professional administrative services credential, the candidate must have:

- completed 24 semester units in a CTC-approved program while holding the preliminary credential;
- served administrative internships which demonstrate competencies in the areas of evaluation of the educational program, planning procedures for staff and facilities, administrative leadership skills, strategic planning, contract management, utilization of staff, implementation of personnel policies, and development of community support.

Administrator preparation programs in California currently are under review. Legislation enacted in 1990 requires the Commission on Teacher Credentialing, in consultation with the California State Department of Education, institutions of higher education, school districts, county offices of education, and professional organizations, to conduct a comprehensive study of preliminary and professional administrative services credentials.

The legislatively mandated study encompasses the following areas: (1) effectiveness of existing administrator preparation programs, including an assessment of whether university-based programs should include topics such as those covered by the California School Leadership Academy (described in the next section of this chapter), (2) alternative models for assessing administrator competence, and (3) other issues related to competencies required for administrative positions.

The Commission on Teacher Credentialing is to submit a report of its findings to the legislature by October 1, 1992.

The California School Leadership Academy

The California School Leadership Academy (CSLA) was established as part of California's omnibus education reform act, Senate Bill 813, in 1983. CSLA was envisioned as a way to provide additional, practical school management training for individuals who had completed a college or university program leading to an administrative services credential. Many CSLA participants, initially and currently, are practicing school administrators.

The original CSLA program consisted of a set of tightly orchestrated, highly structured instructional units covering conventional management topics. The program required a commitment of fifteen days away from their places of employment for individuals who wished to participate.

CSLA, since 1988, has been restructuring and reorganizing its program. The "new" CSLA program provides a core training of ten days and offers a vastly different instructional scope. New modules cover such topics as, "Shaping Your School's Culture to Improve Learning," "Constructing a Teaching and Meaning Curriculum," "Using Technology for Delivery of Instruction," "Sharing Leadership to Increase School Effectiveness," and "Assessing and Accounting for Student Performance and Program Quality." Subject-oriented instructional units of the CSLA program encompass English, language arts, and history/social science and are designed to "coordinate" with the state's curriculum frameworks.

New program components slated for development in 1991 include, "Coordinating Comprehensive Support Services for Students," "Parental and Community Involvement," and "Helping Staff to Grow Professionally."

A study of preparation programs for school principals in California was conducted by PACE in 1988. That study revealed that elementary and secondary school administrators who had participated in the CSLA program found the CSLA curriculum more relevant to their responsibilities as school administrators than the courses of instruction that were part of their college or university administrative services credential preparation.

Summing Up the Preparation of Education Professionals

The California Commission on the Teaching Profession suggested a number of policy changes designed to enhance California's system for preparing education professionals. The commission recommended that: individuals, rather than programs, be approved for certification, the state establish a Teaching Standards Board, composed of a majority of teachers, to establish standards for entry and advancement in the profession, CBEST be eliminate, a sixth year residency be established as part of the teacher preparation program; emergency credentials be eliminated; and a "board certified" class be established for advanced teachers. What policy choices has California made in the area of preparing education professionals?

California has retained the program approval method of certification. Credential candidates are recommended to CTC for certification once they have completed an approved college or university program of professional preparation. Uniform, statewide assessment of individual candidates is limited to CBEST, a test of basic skills in reading, writing, and mathematics.

The Commission on Teacher Credentialing has been modified. Now teachers occupy the largest number of commission "slots," though they do not comprise the majority of CTC members. The Commons Commission's concept of a Teaching Standards Board has not been realized.

California's New Teacher Project may represent the first step toward development of a residency for the state's new teachers. It is too early to know if practices being developed as a result of the New Teacher Project will be translated into state policy.

The state has not attempted to develop its own "board certified" status. However, efforts of the National Board for Professional Teaching Standards are still in the formative stages, and California may be wise to wait until national efforts are more fully developed before considering the development of a state analogue.

Finally, California has not eliminated the emergency credential. When fully credentialed teachers cannot be found, districts fill available teaching positions with "emergency teachers." The state's effort to craft an alternative route to certification currently is restricted almost exclusively to the Los Angeles Unified School District.

The next section examines Commons Commission recommendations and California responses in the area of creating a professional work environment.

CREATING A PROFESSIONAL WORK ENVIRONMENT

The California Commission on the Teaching Profession was highly critical of the settings in which teachers and administrators perform their professional responsibilities. Among the commission recommendations designed to create a more professional work environment were the following:

- Strengthen and focus the Mentor Teacher Program by making the mentor classification a definite career move rather than a short-term position.
- Create and fund a competitive grant program to demonstrate advanced career options for teachers.
- Begin the process of reducing class sizes.
- Focus professional development programs on long-term goals of educational improvement.
- Restructure the management of California schools.
- Involve teachers in school decision making, including selection of new teachers, evaluation of teachers' performance, organization of school for teaching and learning, assignment of students and scheduling of classes, and schoolwide program development.
- Develop demonstration "educational policy trust agreements" to formalize the cooperation of teachers and administrators in educational improvement.

The Mentor Teacher Program

Career ladder programs provide teachers with enhanced professional responsibilities in exchange for increased pay. These programs are characterized by efforts to differentiate teaching jobs by experience and level of responsibility.

California's Mentor Teacher Program, established by Senate Bill 813 in 1983, was envisioned by the legislature as the first rung of an emerging teacher career ladder. Mentor teachers are selected by a committee of their peers and earn additional compensation in exchange for assuming enhanced professional responsibilities. In 1990-91, the amount of compensation per mentor was slated to be $4,300.

The Mentor Teacher Program was funded at a level of $65,500,000 for fiscal year 1990-91. By statute, mentors are limited to three years of service, though they may reapply for the position. In many school districts, mentors must reapply each year. More than 10,000 (10,740) teachers in 1,001 California school districts are current program participants.

For the first five years of the program, the focus of mentors' work in most California school districts was curriculum development. A study of the program by the State Department of Education revealed that the majority of school districts treated the program as "extra work for extra pay," with mentors typically completing individual projects under general supervision and submitting logs detailing their work and the hours spent completing it.

Since 1989, districts increasingly have been moving away from the individual project orientation of the program, employing services of mentors to provide professional support to their novice colleagues. The State Department of Education now actively is encouraging districts to assess their mentor programs on the basis of whether or not mentor funds are being used to "empower" teachers.

More specifically, the state is asking local school districts to plan their mentor programs "as part of a larger long-range strategy for the improvement of teacher leadership, collegiality, and curriculum improvement to serve an increasingly diverse student population".[8] The state has developed the "California Mentor Teacher Program Initiative for 1990-95" to provide state direction for this long-term strategy.

The initiative outlines five goals: 1) assisting mentor teachers to enhance their own professional development; 2) recognizing mentor teachers as partners in educational leadership; 3) strengthening the selection process for mentor teachers and encouraging multi-year mentor "contracts"; 4) encouraging continuing professional growth for former mentor teachers so they can continue to foster school improvement; and 5) facilitating ongoing analysis of relevant data for continued program improvement.

The Mentor Teacher Program also is closely allied to the California New Teacher Project (described previously in this chapter). No statewide initiative, beyond the Mentor Teacher Program, proposes additional advanced career options for teachers.

The Mentor Teacher Program has been eliminated from the governor's 1991 budget.

Class Size

California's class sizes are nearly the highest in the nation, second only to Utah's. For the 1989-90 school year, the average elementary class size was 27.5 students, the typical secondary class had 27.8 students. Average class sizes in the state have remained virtually unchanged since 1982-83.

Research results on class size and its effects on student achievement provide a confusing picture. Overall, research suggests class size reductions do not produce a significant impact unless classes are reduced to approximately fifteen students. Studies also show, however, that even modest reductions in class size have positive effects on teacher attitude and behavior.

Significantly reducing class size in California is an enormously costly undertaking. PACE estimates that it would cost between $200 million and $250 million simply to reduce class size by one student per class across the state.[9]

California, however, has taken initial steps to assist districts in beginning to reduce class sizes. The Morgan-Hart Class Size Reduction Act of 1989 (SB 666), a bipartisan measure co-authored by Republican Senator Rebecca Morgan and Democratic Senator (and chair of the Senate Education Committee) Gary Hart, targets class size reduction in grades nine through twelve in English, mathematics, science, and social studies. The goal of the legislation is to reduce class sizes in these designated subjects to an average of twenty students to one teacher. Thirty-one million dollars was appropriated for fiscal year 1990-91 to implement the program.

Districts participating in the class size reduction program select one grade level (9–12) for district-wide implementation. Participating schools within districts may select the subject area in which class size will be reduced. For example, a district may decided to focus on the ninth grade. Individual schools, while they must center their class reduction efforts on the ninth grade, may select ninth grade English, mathematics, science, or social studies. The legislation and implementing regulations encourage districts to develop their own class size reduction strategies and to integrate these strategies with other school improvement efforts.

Participating schools are guaranteed $100 per eligible student for the spring 1991 semester and must certify to the state, by the end of that semester, that they have met their class size reduction goals and will maintain these reduced class sizes. The legislation contemplates enabling districts to add to the program one grade level each year.

A separate section of SB 666 establishes the Language Arts Enrichment Program. This section of the statute provides incentive funding of $30 per student in grades one through three for participating school districts which increase direct individual instruction in language arts. Prospective participant school districts, in their application for funding to the State Board of Education, must specify how the new language arts funds will be expanded and how the district plans to evaluate the success of the program. Funding to continue the Class Size Reduction Act has been eliminated from the governor's 1991 budget.

Staff Development

The Professional Development Program (SB 1882, Morgan) was enacted in 1988 and funded in 1989. This law represents a state-initiated effort to redefine professional development activities for teachers and administrators. The statute grew out of the California Staff Development Study, a joint evaluation project of PACE and Far West Laboratory. Researchers analyzed staff development offerings in 32 California school districts to produce a descriptive inventory of policy and program choices reflected in district-level staff development.

The staff development law changes the focus of professional development programs from district-centered to school-centered. Teams of teachers and administrators from participating schools develop school-based professional development plans designed to strengthen subject matter knowledge and instructional strategies, including the use of educational technology. Each school must also develop annual school improvement objectives and must initiate a program of long-term, continuous professional growth, including follow-up activities to assist teachers in using newly-acquired skills on the job.

Under the new staff development scenario, governing boards and district central administrative staff play a supportive, rather than a directive, role. Each district must establish a local plan designed to support coordinated professional development for teachers, administrators, and classified employees. Districts also are encouraged to establish resource agencies or consortia to assist in developing plans and providing access to out-of-district professional development resources.

In addition, staff development funds now flow differently. While some professional development funds remain at the district level, the law requires that governing boards appropriate an amount not less than $4,000 per year to each school that has developed and is implementing site-based staff development.

According to a recent assessment from the office of the legislative analyst, local staff development programs are not proceeding as the legislation intended. Much of the staff development to which teachers are exposed does not relate to subject matter. Most consists of teachers attending workshops on a one-time basis. The legislative analyst recommends that the legislature require that regional resource agencies review and approve all local staff development plans in order to ensure that such plans focus on improving subject matter knowledge and instructional practices and include specific provisions for ongoing staff development.

The Trust Agreement Project[10]

The Trust Agreement Project, which began in fall 1987, is designed to enable teachers, as represented by their union, and school management to develop written agreements on an expanded range of professional issues in a collegial setting. A cooperative endeavor of the California Federation of Teachers, California School Boards Association, California Teachers Association, and the Association of California School Administrators, the project operates under the auspices of Policy Analysis for California Education (PACE).

In 1990, ten California school districts were part of this pilot effort. Participating districts range in enrollment from 2,500 to more than 100,000 students. They are urban, rural, and suburban. Some project districts have relatively homogeneous student populations; others mirror California's increasing racial and ethnic diversity. Some have a long history of cooperative labor relations; others do not.

Trust agreements have no inherent subject matter. Rather, districts are encouraged to diagnose local problems and develop teacher-management collaborative solutions.

The written trust agreements, which sit alongside the collectively bargained contract, contain four common elements: 1) a purpose statement enumerating the goals of the agreement, 2) a statement of the resources to be applied to the purposes, 3) an implementation section assigning responsibility for the execution of the agreement, and 4) an adjudication procedure establishing authority to resolve disputes which might arise in the course of implementation.

Participating school districts and their teachers' unions are crafting and implementing agreements in a variety of educational areas. These include site-based management, in which significant educational decisions devolve to the school site; staff development, whereby teachers assume primary responsibility for their own professional growth activities; and peer review, a process by which teachers provide support to, and then evaluate, their novice colleagues.

According to PACE's preliminary assessment of the project, trust agreements are evolving both as a means to dampen labor-management conflict and as a mechanism to spur education reform.[1] Educational Policy Trust Agreements appear to be altering the way in which organizational decisions are made in participating districts. Teachers in project districts are being included as partners in key decisions. Moreover, trust agreements seem to be having the effect of replacing conflict with cooperation, altering the traditional relationship of teachers and school management. Importantly, trust agreements appear to be encouraging teachers and administrators to assume collective responsibility for educational processes and outcomes.

Summing Up California's Progress on Creating a Professional Work Environment

The California Commission on the Teaching Profession, considering how to provide a more professional work environment for education professionals, recommended that career options within teaching be developed and that the Mentor Teacher Program be defined as a definite career move, the state begin to reduce class sizes, professional development programs be refocused, school management be restructured and teachers become more directly involved in professional decisionmaking, and demonstration Educational Policy Trust Agreements be developed to formalize cooperation of teachers and administrators in educational improvement. What steps has California taken to enact these recommendations?

The structure of the Mentor Teacher Program remains much the same as when the program was created. Mentors' service is limited to three years in a "terminal" program to which no additional steps have been added. However, the program has been refocused. Mentors increasingly devote additional time to assisting novice colleagues, rather than creating district curriculum.

Class sizes remain high, and the solution to the class size problem remains expensive. The state, however, has enacted legislation to begin to reduce class sizes in designated grades and subjects. One of the continuing obstacles to class size reduction may be that districts and teachers continue to think of class size as the number of students assigned to an individual teacher at any given time. Given the fiscal improbability of dramatic class size reductions in the near term, the state might encourage districts to employ alternative strategies which could have the effect of reducing class size.

For example, teacher specialists might be employed to tutor small groups of below-grade-level students on a daily or several-times-weekly basis. Computer assisted instruction and peer tutoring strategies might be expanded, particularly in the elementary grades. Finally, differentiated staffing plans which utilize a mix of lead teachers, professional (fulltime classroom) teachers, adjunct and part-time teachers, and paraprofessionals might be developed and implemented.

Finally, the development of Educational Policy Trust Agreements is underway in ten California districts. Trust agreements appear to be having the effect, in participating districts, of reducing conflict between teachers and administrators, as well as involving teachers in a range of professional decisions. Trust agreements are not, however, currently a matter of state policy or initiative.

ANTICIPATING FUTURE NEEDS

California schools can expect to welcome more than 200,000 students each year for the next decade. This dramatic enrollment increase, when added to general teacher attrition, retirements, and recurrent policy efforts to reduce class size, presents the state with an enormous challenge—to recruit sufficient numbers of qualified teachers. It is estimated that simply to keep pace with enrollment growth, the state will need to hire, by 1994-95, 75,000 new teachers.[11]

In addition, a majority of California's public school students are members of racial and ethnic minority groups. The vast majority of teachers are white. Thus, the state has the added challenge to recruit capable minorities into teaching.

The California Commission on the Teaching Profession was cognizant of these challenges when it recommended the following:

- ° Initiate a statewide recruitment campaign for teachers.
- ° Recruit minority teacher prospects at the high school level.

Teacher Supply and Demand

Teacher supply is a function of the number of students who complete teacher preparation programs, reserve pool size, teachers holding emergency credentials, the percentage of graduates and reserves actively seeking teaching jobs, and the number of teachers moving to and from other regions. Demand is influenced by enrollment, retirements, class size, attrition, graduation and college admission requirements, and special needs by subject area, teacher ethnicity, or gender.[12]

Stricter high school graduation requirements mandated by Senate Bill 813 and more stringent admission requirements for the University of California and the California State University system have resulted in more high school students taking an increased number of science, mathematics, and foreign language classes. These university changes also have created pressure to hire more teachers.

No comprehensive system yet tracks the supply of and demand for teachers in California. How many teachers actually are needed, in what fields, and in what geographic areas? How many teachers are ready to go to work in California classrooms? How many teachers currently in the "reserve pool" might be attracted to classroom positions? Legislation enabling the Commission on Teacher Credentialing to establish and maintain a comprehensive teacher supply and demand reporting system became law in September 1990, providing the state with the near-term prospect of a needed data system.

However, a preliminary review of available data suggests that, in several areas, the state did not, in 1989-90, produce a sufficient number of teachers to meet its need. For example, California credentialed approximately 200 fewer special education teachers than there were positions available. Less than one-third of the needed bilingual teachers was recommended to CTC for credentials. Similarly, an insufficient number of mathematics and science teachers was certified.[13]

Yet, as is almost always the case, classes are not without "teachers." California continues to rely on individuals with emergency credentials to fill positions for which no appropriately credentialed teacher is available.

Recruiting New Teachers

A study of teacher recruitment in California was released in 1988 by Far West Laboratory for Educational Research and Development. The Far West research team consulted a range of school districts throughout California in an effort to determine how districts attract needed teachers.[14]

School districts have several sources for new teachers: recent graduates of teacher preparation programs, properly credentialed substitute teachers, paraprofessionals who enter programs to earn teaching credentials, people with credentials who reenter the market, teachers transferring from other districts in California, and teachers from out of state. According to the Far West report, strategies used by districts to recruit teachers vary, depending on the source of applicants and the finances available to the district.

In order to attract recent graduates and credentialed teachers within the state, most districts engage in a few standard practices. These include placing advertisements in local and regional newspapers, listing available positions with job placement services, attending or sponsoring recruitment "fairs," visiting teacher education programs at nearby colleges and universities, and attending meetings of professional organizations, such as the California Association of Bilingual Educators and the Council for Exceptional Children. These strategies, however, do not seem to significantly enlarge the size of the applicant pool.

A substantial source of new teachers for most districts is the substitute pool. Districts prefer to hire substitutes and student teachers because district administrators have had ample opportunity to see these individuals function in a classroom setting. Neither the substitute pool nor student teachers, however, is an adequate source of new teachers, according to the districts which participated in the Far West study.

Districts also report extensive out-of-state and out-of-country recruitment efforts. These efforts tend to focus primarily on recruiting special education, bilingual education, and minority teachers whom districts report are not available in sufficient numbers within the state.

District and county office of education personnel rate their out-of-state and out-of-country recruiting efforts as "relatively expensive and not altogether successful." According to the Far West report, district and county representatives locate, on average one to two successful candidates per trip. It is not uncommon, they say, for a qualified candidate to sign a job contract and then fail to appear for the job. Sometimes "prime candidates" move to California and then are unable to secure a California credential, either because they fail to pass CBEST or because they are unable to meet some other California credential requirement.

Because these recruitment strategies often are less than fruitful, several districts are developing longer-range programs to attract students into the teaching profession. These "grow your own" programs attempt to interest high school students in teaching. Programs such as these currently are limited in scale and are restricted to only a few of California's more than 1,000 school districts.

Summing Up State Policies Designed to Anticipate Future Needs

The California Commission on the Teaching Profession recommended that California develop a statewide recruitment effort for new and minority teaching prospects through high schools.

At present, no coordinated, statewide recruitment effort is underway. Individual districts rely on their own initiative and resources, often competing for the most promising teaching prospects. A small number of districts have initiated "grow you own" programs designed to encourage high school students to pursue a teaching career. However, there is no state policy to encourage districts nor state resources to assist them in their efforts.

CONCLUSION

The 1985 release of the report of the California Commission on the Teaching Profession, *Who Will Teach Our Children?*, focused attention of state policymakers on the professional circumstances surrounding California's teachers and administrators. That report made specific policy recommendations in the areas of preparing education professionals, creating a professional work environment, and anticipating future needs.

In the five years since *Who Will Teach Our Children?* was issued, state education policy regarding teachers and administrators has undergone modest alterations as well as a small number of potentially farther-reaching changes. Nonetheless, the vast majority of challenges identified by the commission a half decade ago have received little serious state policy consideration.

[1] California Commission on the Teaching Profession, *Who Will Teach Our Children?* (Sacramento: CCTP, 1985).

[2] See Commission on Teacher Credentialing, *A Report on Teacher Supply: Enrollments in Professional Preparation Programs at California Institutions of Higher Education* (Sacramento: CTC, July 1990) and California State University, *1988-89 Statistical Report: Education Credentials Recommended* (Long Beach: CSU, June 1990).

[3] See Commission on Teacher Credentialing, *The California Basic Educational Skills Test: Annual Report of Examination Results* (Sacramento: CTC, November 1990).

[4] See Commission on Teacher Credentialing, *Newsletter of the California New Teacher Project* (Sacramento: CTC, 1990 series).

[5] Stoddart, Trish, "An Alternative Route to Teacher Certification: Preliminary Findings from the Los Angeles Unified School District Intern Program," (Washington, D.C.: Office of Educational Research and Improvement, December 1990).

[6] Diegmueller, Karen, "NCATE Denies Accreditation to 1 in 3 Schools in Fall," *Education Week*, November 28, 1990.

[7] Carnegie Forum on Education and the Economy, *A Nation Prepared: Teachers for the 21st Century* (Washington, D.C.:Carnegie Forum on Education and the Economy, May 1986).

[8] Office of Staff Development, "California Mentor Teacher Program Information," (Sacramento: State Department of Education, March 1990).

[9] Odden, Allan, "Class Size and Student Achievement: New and Affordable Strategies That Make Sense," (Sacramento:

State Department of Education, May 1989).

[10] See Julia E. Koppich and Charles T. Kerchner, *Educational Policy Trust Agreements: Connecting Labor Relations and School Reform*, (Berkeley: Policy Analysis for California Education, February 1990).

[11] Los Angeles County Office of Education, "Trends: Policy Issues Facing Los Angeles County Public Schools," (Los Angeles: County Office of Education, January 1991).

[12] Ibid.

[13] Ibid.

[14] Koppich, Julia E. and Patricia R. Brown, "Exploring the Link Between Teacher Recruitment and Retention and a Teacher Information System," (San Francisco: Far West Laboratory for Educational Research and Development, 1988).

Chapter 5

The Organization and Control of California Schools

California's schools are exceedingly complex. Balanced atop any single classroom are a variety of regular and specialized instructional programs; thousands of school attendance areas and districts; dozens of county offices of education; a state department employing more than 2,500 professionals; and a chief state school officer, state board of education, and activist legislature.

Still others vie to control such fundamental decisions as what is taught, to whom, by whom, and with what effect. Colleges and universities, courts, nationally known "reformers," test makers, text publishers, accrediting agencies, interstate networks of professional or lay issue-advocates, and a multitude of organized special interests all attempt to control what government does or does not do regarding elementary and secondary education. Instructing California's more than five million pupils involves different levels of government, thousands of employees, and multiple layers of interests, ambitions, and goals.

STATE AND LOCAL ORGANIZATION OF EDUCATION

Education in California is a constitutional responsibility of the state. The legislature is charged with providing and funding a system of free public schools; it also holds the power to incorporate and organize school districts to deliver educational services.[1]

Traditionally, the state has ceded considerable authority to local districts. A widespread ideology of local control and

HIGHLIGHTS

- One-thousand ten school districts operated in California in 1989-90: 612 elementary, 110 high school, and 288 unified districts.
- California's largest 25 districts enroll more than a third (34%) of the state's students.
- More than a third of California school districts serve fewer than 500 students.
- California's electorate, through the initiative process, has restricted the ability of state and local governments to tax and spend for education.
- State and federal courts continue to shape education policy; in 1989-90, 68 active suits were pending against the state department of education and state board of education.
- Two divergent trends in school governance are growing simultaneously–nationwide influence in the form of national goals and interstate assessment comparisons, and the spread of increased operating authority for school sites.
- Developing a system of school-linked integrated children's services is becoming an increasingly important policy issue in the realization that many crucial influences on the education of at-risk children are outside the school's traditional orbit.

unhampered use of the property tax assured school districts the authority and flexibility to act independently in establishing standards and programs.

Only during the past twenty-five years has the state emerged as the primary policy and fiscal agent in the delivery of educational services to California's schoolchildren. Court decisions and legislative prescriptions regarding the equalization of school funding, and loss of property tax discretion through Proposition 13, contributed heavily to this transformation. The state's own capacity to act expanded as well. The number of legislative staff increased, enlarging the institution's policy, oversight, and research capabilities. Similarly, federal education programs required the state department of education to approve local applications for federal funding and provided federal dollars for state administrative purposes. This both expanded the number of professional staff at the state level and provided a measure of state control over the delivery of educational programs locally.

During the same period, increasing turbulence, brought about by the advent of collective bargaining, desegregation, taxpayer revolts and the like, coupled with declining test scores, eroded the public's confidence in local officials and professional educators. State testing and minimum proficiencies for students and staff followed. Omnibus legislation, which included a required core curriculum, and accountability programs, further chipped away at the discretion of local governing boards and superintendents to establish a local agenda. Alignment of state tests, texts, and curriculum guides created a "one best system" impression of schooling statewide.

Finally, education came to be seen as centrally and crucially important to the state's ability to remain competitive economically and to train a diversifying work force to succeed in an increasingly technological labor market. The state's interest in educational productivity and economic development became intertwined. From the state perspective, the need to secure a competitive economic capability overshadowed its former ideological reliance on local control. In short, local turbulence, public distrust of local officials, new state capacity to intervene, and a belief that higher uniform educational standards served the state's overall interests compelled state officials to assert control it long ago had ceded to local agencies.

In many respects, California schools now constitute a state system that is operated locally. The state controls approximately 90 percent of school funding and uses an eight-and-a-half-volume Education Code for regulation (Figure 5.1). The instruments of state educational governance include the governor, legislature, chief state school officer, state board of education, state department of education, and other state agencies. But local districts still maintain a large zone of policy discretion, and some state legislation expands state and local influence simultaneously.

Central State Actors

Because of its constitutional authority, control over school funding, and elaborate policy apparatus, the legislature is the central arena for school governance. In California, as in other states, it rightfully is regarded as "the big school board."[2] Similarly, because of his line-item veto and command of public attention, the governor, potentially, is a powerful influence on school policy. During the last eight years in California, however, the governor's role is more aptly characterized as shepherding limited state resources rather than providing educational policy innovation and leadership.

In contrast, the superintendent of public instruction has limited formal powers. The holder of this office serves as the secretary and executive officer of the state board of education and chief executive officer of the state department of education. The state superintendent also sits as an ex-officio member of the Board of Trustees of the California State University, Board of Regents of the University of California, and other commissions. Traditionally, the state superintendent has provided considerable policy leadership, though formal power is limited in large measure to the bully pulpit and a role as implementor of state statutes. The state superintendent shares no formal role in establishing the state's budget for public schools. Moreover, in California, the superintendent of public instruction is one of seven constitutional officers, elected statewide, for a four-year term, and thus is independent of the governor.[3]

The state board of education, on the other hand, is appointed by the governor. Its responsibilities are limited primarily to "issuing guidelines for legislatively enacted statutes, distributing admonitions to local districts,"[4] and adopting textbooks.

The state department of education, over which the state superintendent presides, is the primary administrative agency for public schooling. Included among its responsibilities is the apportionment of funds to all local educational agencies. It also develops curriculum standards and guidelines, provides technical assistance to districts in implementing statutes, administers statewide testing programs, collects and distributes data, coordinates staff development activities for administrators and teachers, issues individual school accountability profiles, administers federal educational programs, ensures compliance with categorical program laws, and administers adult education programs and state special schools for the deaf, blind, and neurologically handicapped. An independent commission handles teacher certification. The state department of education reports administratively to the state superintendent, not to the state board of education.

State Board Dispute with Superintendent Honig Over Appropriate Powers

The California State Constitution provides for an elected state superintendent with independent powers and a position outside of the governor's cabinet. Recently, California has elected strong and visible candidates such as Max Rafferty, Wilson Riles, and Bill Honig. Two of these state superintendents (Rafferty and Honig) have engaged in major bitter public disputes with the governor that have led to policy deadlocks and mutual recriminations. Governor Deukmejian's chief control of the state superintendent was through the line-item budget veto that led to substantial cutbacks in Honig's staff and programs. But the governor also makes appointments to the State board of education (SBE) that has a broad policy mandate but few specific powers. From 1987 to 1990, Governor Deukmejian appointed State board of education members who increasingly were opposed to Honig and supportive of the governor in rancorous personal and policy disputes with the chief state school officer.

The SBE's powers have always been somewhat unclear and the SBE has usually approved the superintendent's policy proposals. The board has the constitutional power to approve textbooks and Title 5 administrative regulations. Recently, the board has felt that its policy-setting role has been preempted by the superintendent and sought to increase its formal powers. Traditionally, the state board has not played a role in setting the superintendent's recommendations for program budgets, the department's own budget, or appointment of major department officials. During the Rafferty era in the 1960s, the board sought legal opinions about its ability to force the superintendent to take specific actions. But in the 1960s the lawyers seemed to agree that the board and the superintendent could checkmate each other though *not* compel each other to create or implement policies.

The board also has been frustrated over its inability to hire an independent policy analysis staff. Instead, it has had to rely on the superintendent's staff to analyze policy proposals and formulate alternatives. The turnover on the SBE from 1985 to 1990 was very rapid and there are few experienced members who have much background on the issues.

The Deukmejian-appointed board decided in 1990 to sue the superintendent to increase its budget and appointment powers. The board also sought to pre-approve the superintendent's policy memos sent to local superintendents. Honig contends that he has the constitutional right to take these actions independent of the board. Both sides have hired lawyers to seek definitive court rulings.

Honig has charged that the board's lawsuit is part of his dispute with the governor, but the board's view is that the dispute over its role is part of a larger issue of board effectiveness. Legal rulings are expected during 1991, but the election of Governor Wilson could serve to lower the tension level.

Intermediate Agencies

County offices of education operate between California's state and local educational agencies. Earlier regarded as an arm of the state department of education, county offices played a substantial regulatory role—for example, ensuring compliance with state standards.[5] Also, in the early 1960s, county offices of education worked closely with county tax assessors in developing projections for school revenues and budgets. Since the state has assumed responsibility for funding schools, however, the fiscal function of county offices has diminished.[6]

To a growing degree, county offices have come to offer direct services to school districts, often providing system efficiencies through cost containment and cost reduction programs. Examples include educational telecommunications networks, staff development training and coordination, transportation management, centralized payroll data processing systems, library and film distribution, business services consulting, and coordinated or centrally provided student instructional services.[7] In specialized areas such as services for the handicapped and vocational education, services for which there can be substantial economies of scale, county offices have assumed actual operating functions. In general, smaller and more rural areas depend to a greater extent on the services of county offices.[8]

Recent reports by blue-ribbon panels examining school reform have called for a reconceptualization of the intermediate unit in California's school governance structure. Governor Deukmejian's California Commission on Educational Quality, for example, proposed abolishing the current county offices and reconstituting them over larger areas as regional service centers. The commission report argued that increased regionalization of program and service delivery would effect substantial management efficiencies and cost containment in the K–12 system. Similarly, the Association of California School Administrators' Commission on Public School Administration and Leadership described the state's current system of county offices as "more [rooted] in history than in practicality."[9] It recommended that regional service centers could achieve substantial economic efficiencies and improve the availability of technical resources.

Loss of Local Discretion

Changes in local school decision making during the past twenty-five years have transformed the image of public education. More common today are images of unionism, community control, and interest-group bargaining. Included in this transformation are at least six changes that altered local school decision making and constrained the policy-making discretion of local governing boards and district superintendents.

First, new core constituencies arose to contend for school system benefits. Parents sought decentralization of authority and community control of schools. Students gained greater freedoms over their dress and expression. Teachers organized for collective bargaining. Taxpayers reformed local finance mechanisms, shifting larger portions of the financial responsibility to the states. Minority groups pressed causes involving desegregation, dropouts, and the like. Federal and state authorities issued mandates, guidelines, court orders, and so forth. The diversity and intensity of conflict among these burgeoning interests reached a level that some analysts described as "turbulence."

Second, the intensity and scope of state policy actions, such as California's omnibus reform legislation, Senate Bill 813, and subsequent administrative initiatives, has shifted the balance of control away from local districts and toward the state capital.

Third, the growth of federal and state categorical programs significantly fragmented local authority. Separate special controls and funding systems exist so that no one office locally integrates categoricals in a consistent way.

Fourth, local bargaining contracts centralized decision authority within districts but also dispersed authority to legislatures, courts, and public administrative agencies, like the Public Employment Relations Board in California.

Fifth, the turbulence in school systems has been inflamed, in part, by changes in the environments of school districts, such as enrollment declines, economic recession, demographic shifts, and roller-coaster financing, as well as by crystalizing events like AIDS and civil rights.

Sixth, an educational reform movement burst upon the scene, expressing a shift in public values from equity and choice to excellence and efficiency. This reform movement is concerned that the quality of U.S. schools is not sufficient to keep the nation internationally competitive.

In short, governmental rulings and new constituencies from the top and bottom have encroached upon the authority of local decision makers, squeezing the "discretionary zone" of their activity into a smaller area. At the same time, increasing demands from emerging special interest groups contending over fundamental values have diminished the ability of governing boards and superintendents to set a district's agenda. School board members and superintendents now more often react to other forces (changing coalitions, for example), and they do so with less public confidence. The legacy of changes over the past twenty-five years is that it is hard to tell who is in charge of public schools. One certainty, however, is that local decision makers are less in control than twenty years ago but still are able to make many major decisions.

Indeed, the picture is more complex than a zero-sum model where, as one level expands influence (e.g., state), the lower level (local) loses.[10] Many California state policies have considerable room for flexibility and also enhance local initiative. The concept, then, is mutual influence among education policy levels rather than zero-sum. Some state mandates, such as requiring a semester of economics, are strongly directive of local behavior. But mandates and rules have not been the main strategy for the state to guide or influence local curricular content in the past decade. California curricular frameworks in science and social studies, for example, are not mandatory and allow local education agencies (LEAs) numerous topics to choose among. Moreover, many LEAs utilize the state curricular framework as a springboard for their deliberations about a solution to fit a particular local context.

Fuhrman and Elmore stress that much state policy is characterized by low enforcement, imprecise policy directives, and local initiative. Many LEAs in an earlier PACE study not only complied with SB 813, passed in 1983, but were building on the state-based mandates to add new policies of their own.[11] Fuhrman and Elmore, in their study of six states (including California) found that:

> Local activism in reform has been noted in several studies of the reform movement . . . . This [local] activism takes a variety of reforms: staying ahead of the state and of peers by enacting policies in anticipation of higher state mandates, local orchestration of various state policies to meet specific needs, and using state policies as a catalyst for achieving district objectives. The clearest current manifestation of local activism is the curriculum alignment and standardization movement underway in many districts. (p. 88)

These newer studies of state reform impact allow for the possibility that both state and local control can increase as a result of state policy-making. The local response in many cases has been to use state policy as a springboard for new local ideas.

District Characteristics

As extensive and active as state educational entities have become, local school districts still are the basic operating unit in school organization. They also are the most numerous units of local government. It is at this level that services are delivered to clients and the success or failure of an instructional system is most strongly determined.[12] To an extent, districts serve two masters: local decisions are made at this level regarding the management and operation of a community's schools, but districts also are the primary implementors of state policy.[13]

California has an unusually complex formal arrangement of school district structure. Typically, school districts fall into one of three classifications: elementary, including K–6 or K–8; high school, including 7–12 or 9–12; or unified, including K–12. Citizens often live in two school districts, one for elementary and another for high school. Many districts are not contiguous with city, town, or any other identifiable border. The city of San Jose, for example, has twenty-one school districts within its boundary.

One thousand ten school districts operate in the state today. Six hundred twelve of these districts are elementary, 110 are high school, and 288 are unified. District enrollments range from eight (Flournoy Union Elementary in Tehama

County) to 609,746 (Los Angeles Unified). California's largest twenty-five school districts (2.5% of all districts) serve approximately 34 percent of the state's public school students. More than one-third of California's school districts (342) enroll fewer than 500 students. Ninety-four districts (9.3%) enroll fewer than 100 students.

Encouraged by state financial incentives, many school districts unified or consolidated into larger districts. This has reduced the total number of districts from 3,000 in 1935 to 1,010 today .

Prior to Proposition 13, the legislature provided unification bonuses,[14] but few consolidations have taken place since 1970. Indeed, just as many proposals for secession from larger districts have been on the state board's agenda in the last decade. The public is unwilling to surrender the sense of local control embodied in a small school district.

Public School Characteristics

There were 7,358 public schools in California in 1989–90. The most common types of school organization are:

- elementary—usually organized as K–6, K–7, or K–8
- intermediate—usually organized as 4–6, 4–8, 5–8, 6–8
- junior high—usually organized as 7–8 or 7–9
- high schools—usually organized as 9–12 or 10–12

The most common configurations of schools within unified school districts and between elementary and high school districts include either K–8, 9–12; or K–6, 7–8, 9–12; or K–6, 7–9, 10–12; or K–5, 6–8, 9–12.

In addition to elementary, intermediate, junior high, and high schools, there are almost 800 schools of other types in California. These include continuation high schools (431 schools), county superintendent-operated schools (frequently for special education), and other types of schools, such as alternative schools, opportunity schools, and schools for pregnant minors (together numbering 340 schools).

Median enrollment for elementary schools is approximately 450 pupils; for intermediate and junior high schools, approximately 650; and for high schools, approximately 1,500. But just as for districts, these numbers mask great variances, ranging from one-room elementary schools in remote areas, frequently enrolling ten or fewer students, to massive urban high schools with enrollments exceeding 4,000. Continuation high schools, schools for pregnant minors, and other special schools typically enroll substantially fewer pupils.

In accord with their specialized function, that is, to prevent dropouts and provide a more flexible program, continuation secondary schools generally enroll smaller numbers of students. Information from the California Basic Educational Data System for 1989–90 indicated that 53 percent of continuation schools have enrollments of fewer than 100 students.

Continuation schools are alternatives for pupils having difficulty adjusting to the normal high school organizational structure. Although many of these students are at risk of dropping out, continuation schools also provide an alternative for students not having academic difficulty but requiring a flexible time schedule for their studies (for example, those whose economic situation requires them to work during the academic day, or those who spend a large part of their day in rigorous training for athletic competition). With more than 80 percent of continuation schools having the same graduation requirements as traditional high schools in their districts, continuation schools provide an alternative means of high school completion which features part-time attendance, smaller class sizes, and individualized instruction.

School Calendar

The overwhelming majority of California schools operate on the traditional September to June schedule. However, rapidly rising enrollments and scarce school facilities have encouraged some school districts to experiment with year-round schedules. That is, they have reorganized their school calendars into instructional "blocks" and vacations that are distributed evenly across the calendar year.

For example, the most common year-round schedule is the so-called 45–15 model. Here students are divided into four instructional blocks. Students in each block attend school for 45 days, then vacation for 15. The cycle is repeated throughout the calendar year. Students attend school the same number of days as they would under the conventional calendar (180), but with a year-round schedule, education is continuous. In fact, some districts operate remediation, enrichment, and acceleration programs during the intersessions, adding additional flexibility to a school's curriculum.[15] Seventy-four percent of teachers responding to a state department of education query reported that they preferred the year-round schedule, arguing that it produced better-quality instruction. Forty percent of students in that same study said they learned more as a result of the continuous instruction.[16]

Year-round schooling, however, is foremost an expedient way to handle burgeoning enrollments when there is no state money to build new schools. State aid formulas include incentives for year-round schools. It is chosen in lieu of other alternatives for handling overcrowding, such as busing, split sessions, portable classrooms, and constructing new schools. Under a year-round schedule, instructional blocks are staggered. While one group is on vacation, another can use its space. The 45–15 model, for example, increases the capacity of a district's existing facilities by 33 percent. Most year-round schools are in Southern California where enrollment growth is greatest. Parent response has been mixed,[17] but burgeoning California enrollment has caused a steady increase in year-round schools, from 382 in 1989 to 689 in 1990, with 1,100 projected for 1991. Almost all of these are elementary schools, and year-round now includes 13 percent of ADA. By 1992, it is expected that all students in the Los Angeles Unified School District will be on year-round schedules.

Classroom Organization

The bulk of classes in California schools are so-called regular classes[18] and are essentially of two types.

1. *Self-Contained.* These classes exist primarily in elementary schools in which an instructor teaches a full array of subjects—mathematics, science, reading, writing, social studies, and art—to the same students for a full school day. Some of these classes combine more than one grade (grades are frequently combined when there are insufficient students in a single grade to compose a full class of students).
2. *Departmentalized Classes.* These classes, typically found in middle, junior, and senior high schools, are characterized by subject matter instruction; that is, rather than one teacher instructing a class of students in all subjects, the instructor teaches the same subject matter to more than one set of students during the school day. Subject-matter classes also occur in elementary schools when a specialist, in art or music for example, may be employed to teach a single subject across grade levels or in more than one school. Subject-matter classes are normally organized into departments. The most frequently offered classes, in descending order by department, occur in: English, mathematics, social science, physical education, special education, and science.

There are literally hundreds of different classes ranging from small, scattered-enrollment classes in subjects such as archaeology, third-year Portuguese, hardware/building, or cinematography, to classes with massive statewide student enrollment in such basic required courses as comprehensive English, United States history, or algebra.

Direct Control by California's Electorate

California voters have imposed significant resource restraints upon educational policy makers at state and local levels. Numerous initiatives have restricted the ability of the governor and legislature to set priorities.

The legislative analyst identified five recent trends in the way initiatives limit the ability of state and local officials to develop their budgets. These trends include:

1. Initiatives that fundamentally change state and local financing (Proposition 13).
2. Initiatives that require a specified amount of the budget to be spent on a particular program (Proposition 98).
3. Initiatives that raise funds and earmark their use for a particular purpose, i.e., the California Lottery.
4. Initiatives that reduce the state's revenue base.
5. Initiatives that specify how, and how much of, bond funds are to be spent (State School Bond initiative).

In 1978, Proposition 13 established a mandatory one percent statewide property tax and prohibited local school boards from raising or lowering it. By removing local discretionary taxing authority, Proposition 13 dramatically altered the balance of state and local control of schools. In fact, as we asserted above, California effectively has a state system of education, even if public opinion has not easily caught up with this fact.

In November 1979, Proposition 4, the so-called Gann limit, restricted increases in state and local spending to changes in population and inflation. By 1987, the Gann limit dominated state political deliberations, divided the school community, and hurt educational interests.[19] In 1990 California voters approved Proposition 111, which increased the Gann state spending limit.

In *Conditions of Education in California 1988*, PACE concluded that Proposition 13 and the Gann limit, in tandem with legislated solutions to *Serrano v. Priest*, (the landmark school finance equalization case of the 1970s) severely restricted the ability of educational policymakers to address the dual challenges of rapidly rising enrollments and continuing school reform. Only an unusual degree of political consensus in Sacramento, PACE argued, or additional voter initiatives could relieve public education from the vice of state and local constitutional spending limits.

In 1988, California voters again used the initiative to shape educational policy. In June the electorate rejected Proposition 71, a proposal to modify the Gann limit. In November 1988, however, Proposition 98 narrowly won approval. Again relying on a constitutional amendment, California voters guaranteed public schools a base funding level equal to approximately 40 percent of the state's general fund or an amount sufficient to cover growth and inflation, whichever is higher.

Proposition 111, passed in June 1990, solidified the complicated series of legislative agreements struck in the closing days of the 1988–89 fiscal year to implement Proposition 98. Proposition 111 refines Proposition 98 and increases the state spending limit (Gann). The 1990 state budget shortfall, however, caused Governor Deukmejian to circumvent the Propositions 98 and 111 guarantees for school funding and limited schools to increases less than inflation (see Chapter 8, Fiscal Resources).

In short, California's electorate restricted the ability of both state and local governments to tax and spend for education and decreed (if inadvertently) that state government should dominate decisions regarding school finance policy. After affirming its electorally imposed spending limits, voters then provided a base of funding to public schools and elevated education to a favored position in state budget politics vis-à-vis health, welfare, prisons, transportation, and other state public services. However, the political bargains required to meet the state's revenue shortfalls have delayed temporarily the implementation of Proposition 98 school spending guarantees. The lack of growth in state aid has triggered more local elections for increasing property tax. Under Proposition 13 these elections must receive a two-thirds majority vote, so consequently very few have been approved—of 102 attempts, just 38 have been successful.

Influence of the Courts

State and federal courts provide another powerful influence on local educational policy. In 1989-90, there were approximately 68 active suits against the state department of education and state board of education which involved almost all areas of local school operations, including curricular issues and the purported lack of local compliance with categorical program requirements. The courts are important actors in education and further complicate an understanding of who controls California schools. Court decisions on desegregation, school finance equity, and bilingual education have transformed California school policy.

Simultaneous Centralization and Decentralization

As we begin the 1990s, two divergent trends in school governance are growing—nationwide influence and increased authority at the school site. The national goals formulated by President Bush and the National Governors Association are being reinforced by interstate assessment comparisons utilizing the federally funded National Assessment of Educational Progress (NAEP). The interstate NAEP math results will be published in 1991. Moreover, the National Council of Teachers of Mathematics has forged a consensus on a detailed list of math topics that could be the basis of a nationwide (not federal government) curriculum. This national movement has been buttressed by expanded California state reporting and accountability techniques highlighted in the 1989 PACE *Conditions of Education*. California has one of the most extensive state assessment systems and school report cards in the United States, and these California reports will be including more national comparisons.

But an offsetting trend to these nationalizing influences has been the spread of increased operating authority for individual schools, with the objective of tailoring instruction to the preferences and needs of their clients—pupils and parents. This is consistent with modern private sector and organizational development dogma regarding the usefulness of maximized discretion at operating sites.[20] The operational details of school site devolution, however, are somewhat inconsistent. In some models, the only ceding of central office discretion is over trivial matters such as the spending of budgeted funds for instructional supplies. (This typically amounts to only a small proportion of overall school money, even when per-pupil allocations are aggregated for all students in a large secondary school.) At the opposite extreme are models where teachers, as a collective, make decisions regarding employment and retention of new hires, allocate budgets, determine discipline policy, and control the daily school schedule. In between are variations where the authority is allocated to principals or heads but not to teachers, or hiring discretion is allocated to a school but selection can take place only from a pool of recruits compiled by central district-wide authorities.[21]

School site management is a frequently included component of school reform, but has been adopted only haphazardly in the United States. The huge Miami urban school system in Florida is one of the most visible showpieces. Teachers in Los Angeles demanded a version of school site management before agreeing to return to work in a May 1989 strike. Many other smaller systems have adopted it. Much is written about it. However, to date, no state has adopted it in toto.

School site discretion appears at first glance to be paradoxical. In the face of growing centralization of school decision making, why would greater operating authority be ceded to school sites? The frequent justification is that, whereas it is necessary for central authorities to specify the *what* of schooling, it is not appropriate, or even sensible, for them to specify the *how*. Two somewhat antithetical justifications are provided for this posture.

One frequently offered rationale for decentralized operational decision making is that teachers are, or at least should become, "professionals." Thus, it is demeaning to specify their instructional behavior. Presumably they know what their student clients need and they are trained to meet those needs. Too great a degree of central direction would be demeaning and, thus, counterproductive. Better for central authorities to leave instructional decisions to those on the operational periphery—school administrators and instructors. Another rationale is that too little is known scientifically regarding instruction to take the risk of specifying teaching behavior centrally. Under conditions of technical uncertainty, better to permit a "thousand flowers to bloom."

One type of decentralization that has been spreading among states is parental choice of which school their children should attend. While several states have passed open enrollment bills permitting children to attend any public school within or between LEAs, the California legislature has not enacted any of the choice bills before it. The reasons for this California policy are complex and multiple, including lack of space, transport costs, potential desegregation impact, and school boards' fear of uncertainty concerning school enrollment changes. PACE has prepared a detailed analysis of choice issues in California.[22] Neither the Democratically dominated state legislature nor former Republican Governor Deukmejian expressed much enthusiasm for choice. Governor Wilson has not made choice an educational priority for his first year.

A recent book by Chubb and Moe[23] justifies choice partly based on the authors' thesis that the political control system for education is gridlocked and cannot make anything more than minor policy changes. These authors contend that there are so many well-organized factional interests that they checkmate each other and prevent school improvement. School leaders are unable either to build coalitions that will last or make any bold changes. The 1990 Congressional budget deadlock is a good example of this alleged pattern in education politics.

Chubb and Moe assert that the schools suffer from an excess of democracy and that choice is a panacea. Yet they appear to be concerned primarily with big city politics, and it is difficult to see how their gridlock thesis applies to small LEAs so prominent in California. More than one-third of California school districts enroll fewer than 350 students and thelargest one quarter of LEAs enroll 34 percent of the state's pupils. Chubb and Moe do not produce any new data to substantiate their political gridlock thesis, and they rely solely on their interpretation of other education politics research. It also is debatable whether choice is the best solution even if one accepts the excess democracy thesis. Several large U.S. cities, including San Diego, have begun major restructuring initiatives and thus the political gridlock thesis is hardly immutable. In California, no political consensus concerning choice seems to exist among the factions.

California 1990 Restructuring Initiative

Demonstration in Restructuring of Public Education (SB1274) is California's newest education reform statute. Sponsored by the Business Roundtable, SB1274 was a bipartisan effort co-authored by Senators Hart and Morgan and Assemblyman Vasconcellos. The measure appropriates an initial $6.75 million to allow school districts or consortia of districts to apply for funds to conduct five-year demonstration projects in restructuring education.

SB1274 is designed to increase site-level decision-making at schools. Specifically, the bill appropriates $30 per pupil for planning grants for the first year. It then grants up to $200 per pupil in a subsequent year to enable up to 200 elementary and secondary schools to implement local restructuring programs. Program development is to involve classroom teachers, administrators, parents, local businesses, colleges, and community organizations.

The statute requires participating schools to focus their restructuring efforts in five primary areas:

1. developing curriculum, instruction, and assessment strategies to promote high standards of achievement for all students;
2. offering postsecondary options for 11th and 12th grade students to enroll in specialized secondary school programs or college courses, and to participate in internships with business, industry, schools, and community organizations;
3. redefining roles for teachers and parents, emphasizing ways in which decisions regarding matters such as hiring, assignment, expenditures, selection of textbooks, context of courses, and instructional strategies can devolve to the school site;
4. using technology to support student learning; and
5. coordinating services between schools and social service agencies and (subject to separate funding) expanding preschool programs for four-year-olds.

Selection of participating schools will be made in spring 1991 by the state board of education, on recommendation from the superintendent of public instruction and a group comprised of teachers, administrators, school board members, parents, and representatives of the business community. Selected schools and districts are expected to begin their planning for restructuring activities in fall 1991. SB1274 is a good example of how both state leadership and local flexibility can be advanced simultaneously.

THE ORGANIZATION AND CONTROL OF CHILDREN'S SERVICES

The 1990 gubernatorial election campaign featured discussion of the relationship between education and other services for children. PACE's 1989 publication, *The Conditions of Children in California*, emphasized that children's services are fragmented, discontinuous, and uncoordinated. There is no state policy for children or organizational unit to provide leadership. Governor Wilson has promised closer coordination between health and education services with an initial focus on elementary schools. He has appointed Maureen DiMarco, former head of the California School Boards Association, to a newly created cabinet-level position of Secretary of Child Development and Education. Her job will be to co-locate services at school sites and other locations so that children with multiple needs can receive one-stop services.

There is an increasing realization that many crucial influences upon the education of at-risk children are outside the school's orbit, and schools cannot do it all.[24] Only an alliance of parents, social service agencies, and educators can make a significant difference for children with multiple needs and dysfunctional families. For example, some schools have become "hubs" for integrated social services, including health, child care, children's protective services, juvenile justice counseling, and parent education. These schools are open from 7:00 a.m. to 7:00 p.m. and provide breakfast, snacks, recreation, child care, and a variety of social services. But these schools are rare and there is no federal or state coordinated policy to increase them.

Any attempts to improve the current children's services system, however, proceeds from a dismal current situation and a history of failed solutions.[25] In a comprehensive study of California children,[26] children's services were found to be:

- focusing on acute situations rather than prevention
- fragmented so that the child can be likened to the ball in a pinball machine, bouncing from agency to agency with no coordination or follow-up
- discontinuous, episodic, and not following the life course of the needy child
- characterized by major gaps where no services exist, such as health insurance
- inequitable in terms of quantity of services among local jurisdictions (e.g., counties)
- unaccountable for performance—only education has a system of outcome indicators for children.

There are numerous indictments of the current system, and they are so severe that one must reconsider whether huge amounts of new money should be poured into the existing configuration of categories and monuments to single-issue groups.[27] In the PACE 1989 study, coordination of children's services was characterized as "unnatural acts performed by unconsenting adults."

Roots of the Problem

Improving the current non-system must proceed from a grasp of the deeply rooted causes. Problems start with splintered professional preparation on the same university campus. Educators go to the education school, social workers to social welfare schools, health professionals to schools of medicine or public health, juvenile justice workers to criminology schools, county executives to public administration schools, and so on. There is rarely any interprofessional education or contact. This initial professional preparation is followed by isolated professional networks that rarely interact and have no staff development across professions. Recently a California foundation gave a grant to a large California university for the education school faculty and its students to meet the school of social welfare. They had coexisted in splendid isolation for forty years.

Since the professionals do not know each other, it is difficult to overcome informal legal barriers for confidentiality of a child's records. Some children's records need to be confidential, but often parents will waive these rights. It is not uncommon for five different agencies to be assisting the same child and family and be unaware of the other agencies' involvement. The information systems of the various children's agencies are not linked and have no way of cross-referencing clients.[28]

The structure of state and local government is a major barrier to coordinating services. At the turn of the twentieth century, school boards seceded from local government and went their separate ways.[29] A major study of school boards concluded that local boards have only sporadic interaction with general government and tend to be isolated from mainstream community political structures. Categorical fragmentation in education is multiplied exponentially when one examines children's services. The California state government has 160 programs and 35 state agencies administering children's programs. California state legislative jurisdictions include 12 committees on behalf of children with a history of specialization by legislators in a single domain. There is no leadership at the state or local level that can transcend this morass. We have superintendents of schools but no superintendent for children. Children's problems are increasingly horizontal, but government is organized vertically like the quills on a porcupine.

Attempts to patch the current system often focus on "projectitis," whereby one of the delivery systems, such as schools, obtains a grant to coordinate all the others. This merely multiplies the number of separate projects in an already overloaded system replete with agencies guarding their professional turfs. The coordination game degenerates into superficial reorganization, such as an "office for children," that placates child advocates but neither changes actual service delivery nor supports parents.

Short-Run Improvement Strategies

New policy directions should reverse the current pattern and provide services that emphasize prevention, continuity, comprehensiveness, equity, and accountability.[30] But how can we get there? No one is certain, but some general principles are useful. First is the straightforward idea that the more services there are located at one place, the easier it is to use those services. Schools can be one of those hubs, but not the only one, and may not be as appropriate in some locations as child care centers, churches, and other institutions. In some cities, parents perceive schools to be hostile places and feel more comfortable with other community institutions. Before the location of multiple services is decided, however, preceding steps must take place. There should be a co-equal strategy that does not assume that the school or any other agency is "in charge" of a group of subordinate agencies. If the schools are "in charge," the other agencies will probably not do much more than they otherwise do. If co-location takes place, schools should not have to divert their existing scarce resources to management and staffing. County or other local agencies should pay for their own personnel and provide an overall coordinator. Co-location is only the first step.

Coordination enables each agency to better meet its own goals while maintaining administrative and programmatic autonomy. A better approach is collaboration where organizations join to provide services to children that are no single organization's sole responsibility. But, collaboration must be based on a community-wide planning process that is locally generated and includes broad citizen involvement. Moreover, line workers such as teachers, social workers, and parent educators should discuss collaboration techniques at the start. These steps can be reinforced by some escalating steps including "hooks," "glue," and joint ventures that let workers know that no one agency can solve problems.[31]

"Hooks" formally link a child's participation in one program with participation in another. For example, foster children automatically qualify and move from school to local job training. "Glue money" allows one agency to subcontract with other agencies and assures children that they can get services in one place. The lead agency becomes the "broker" for the child, and a school can subcontract with health, social service, and job training agencies. The glue money could finance a case manager for each child who can procure or command resources from other agencies. Joint ventures allow several agencies to create partnerships to raise funds for jointly operated programs, and resist the tendency for agencies to grow tentacles into other domains. For example, instead of grafting drug prevention onto schools, the school system would apply for funds with several other agencies to conduct an integrated reinforcing program. A crucial element in all these financial arrangements is the credibility of initial community planning. Moreover, parents need to be involved in the design of programs and assisted to be more effective. Federal, state, and foundation leaders need to provide seed money for this planning to take place because service integration takes time and resources for staff and community participation.

All of these processes must be followed by a comprehensive report card on children's conditions. Baseline indicators of the overall conditions of children need to be devised and then updated at periodic intervals. Otherwise one cannot know if the collaborative efforts have made much difference.

Long-Run Directions

These short-run strategies must be supplemented by a longer-run focus on the roots of fragmentation. Universities have a major role in designing interprofessional preparation through interprofessional courses, continuing education, and interprofessional policy analysis. Ohio State University has been offering such a program for more than a decade. In addition, staff development programs run by school systems need to create opportunities for professionals from different children's services to meet and work informally. Successful local services integration relies on grass roots personal relationships which need to be nurtured.

California also should rethink its local government structure and consider concepts such as the Minnesota Youth Coordinating Board (MYCB). MYCB is a joint powers agreement between the City of Minnesota, Minnesota schools, Hennepin County, Minnesota Park and Recreation Board, and the Library Board. The MYCB can levy a local property tax to promote the integration and quality of services for children. A written interagency agreement specifying who has what responsibility for which services could be a follow-up to a revised local policy-making system.

Confidentiality requirements need to be revised with the objective of fostering collaboration rather than preventing multiple use of information by numerous agencies. Information systems among agencies can be merged and computerized.

California state government has a major role in funding local planning and providing start-up capital for the integrative efforts sketched above. State legislative jurisdictions concerning children could be merged and a new state mechanism could be implemented for waiving state regulations created for health, social services, juvenile justice, education, and other areas. California passed a bill (SB997 in 1989) creating a State Interagency Children's Services Coordinating Board composed of a director appointed by the governor, the chief state school officer, attorney general, secretary of health and welfare, and the directors of Social Services, Mental Health, Youth Authority, Alcohol and Drugs, and Criminal Justice.[32] Counties are encouraged to create interagency children's services coordination councils that should include but not be limited to the following duties:

- ensuring collaboration and countywide planning for the provision of children's services
- identifying those agencies that have a significant joint responsibility in providing services to children and families
- identifying gaps in services to specific populations
- developing policies and setting priorities to ensure service effectiveness
- implementing public and private collaborative programs whenever possible
- providing for countywide interagency case management to coordinate resources, especially for those children and their families who are using the services of more than one agency concurrently.

The local interagency councils devise three-year plans for phasing in a coordinate children's delivery system. The state board may waive existing state regulations pertaining to single-agency operation, staffing requirements, and auditing and accounting requirements. Those waivers are to be granted when existing regulations hinder coordination of children's services and when waivers would facilitate implementing the intent of this statute. The board may seek any federal waivers which are necessary to implement the intent of this chapter. This California law has not yet been implemented but is a promising start.

Other states, such as Oregon, have used different approaches, such as tying increased state aid for preschool to local plans to better coordinate services for children ages 0–18. However, reorganization of government should not be the first and only reform that deals with long-term children's policy. Typically, symbolic reorganization is substituted for all the measures outlined above. But even the short- and long-range approach outlined will not work if parents are not involved and helped. Parent education and improved family processes are crucial because better public services alone are insufficient.

Integrated children's services can be enhanced by school restructuring that provides more personal relationships between students and secondary school teachers. Smaller schools will help, but perhaps even more important is the need for two or three teachers to stay with a group of students for several years during their secondary school experience. In the typical high school, students see teachers for one period a day over one year, and no teacher feels responsible for the student or knows what is going on in the student's life. Counselors and social workers enter episodically, but lack sustained contact.

Teachers refer students to counselors but rarely can follow up on progress. If the same subject-matter teachers stay with a student for several years, these teachers could provide a link to the non-school case manager working with other social services. Improving children's services is still in a trial-and-error stage. There is a dearth of proven strategies, and no strategy will fit all diverse and complex local circumstances.[33] Governor Wilson has proposed a substantial demonstration program to expand school-linked services to many localities. California may yet emerge as a national leader in exploring concepts of integrated children services.

[1] Constitution of California, Article IX, particularly sections 5, 6, and 14.

[2] Roald F. Campbell, Luvern L. Cunningham, Raphael O. Nystrand, and Michael D. Usdan, *The Organization and Control of American Schools*, 5th Edition (Columbus, OH: Charles E. Merrill, 1985), 60.

[3] The other six constitutional officers are the governor, lieutenant governor, secretary of state, attorney general, treasurer, and controller.

[4] James W. Guthrie and Rodney J. Reed, *Educational Administration and Policy: Effective Leadership for American Education* (Englewood Cliffs, NJ: Prentice Hall, 1986), 37.

[5] Ibid., 63.

[6] Commission on School Governance and Management, "Report and Recommendations of the California Commission on School Governance and Management" (Sacramento: May 1985), 7.

[7] California Commission on Educational Quality, "Report to the Governor" (Sacramento: Governor's Office, June 1988), 73; Guthrie and Reed, *Educational Administration and Policy*, 63.

[8] Guthrie and Reed, *Educational Administration and Policy*, 63.

[9] Commission on Public School Administration and Leadership, "Return to Greatness: Strategies for Powerful Improvements in Our Schools" (Sacramento: Association of California School Administrators, October 1988), 33.

[10] Allan R. Odden and David D. Marsh, *How State Education Reform Can Improve Secondary Schools* (Berkeley: Policy Analysis for California Education, 1987).

[11] See Susan H. Fuhrman and Richard Elmore, "Understanding Local Control in the Wake of State Education Reform," in *Educational Evaluation and Policy Analysis*, 12(1), Spring 1990, 82–96.

[12] Guthrie and Reed, *Educational Administration and Policy*, 64.

[13] Campbell, et al., *Organization and Control*, 77–79.

[14] The Association of California School Administrators has recommended that unification bonuses be reinstated. See Commission on Public School Administration and Leadership, "Return to Greatness."

[15] Claire Quinlin, Cathy George, and Terry Emmett, "Year-round Opportunities: A Study of Year-round Education in California" (Sacramento: State Department of Education, 1987).

[16] Ibid.

[17] Ibid.

[18] The remainder are primarily special education classes.

[19] See "Capital Perspective," in James W. Guthrie, Michael W. Kirst, Gerald C. Hayward, Allan R. Odden, Jacob E. Adams, Jr., Helen H. Cagampang, Terry S. Emmett, John W. Evans, John Geranios, Julia E. Koppich, and Betty M. Merchant, *Conditions of Education in California 1988* (University of California, Berkeley: Policy Analysis for California Education).

[20] Thomas J. Peters and Robert H. Waterman, Jr., *In Search of Excellence: Lessons from America's Best-Run Companies* (New York: Warner Books, 1982).

[21] James W. Guthrie, Professionalizing Teaching in California. Policy Analysis For California Education (PACE), School of Education, University of California, Berkeley, 1987.

[22] Michael W. Kirst, *Public Sector Choice in California* (Berkeley: Policy Analysis for California Education, 1990).

[23] John E. Chubb and Terry M. Moe, *Politics, Markets, and American Schools* (Washington, DC: Brookings, 1990).

[24] Michael W. Kirst et al., *Conditions of Children in California*. Policy Analysis for California Education (PACE), School of Education, University of California, Berkeley, 1989. See also National Association of State Boards of

Education, *Joining Forces* (Washington, DC: NASBE, 1989), and William T. Grant Foundation, *The Forgotten Half* (Washington, DC: W. T. Grant Foundation, 1988).

[25] Milbrey McLaughlin and Shirley Heath, "Policies for Children with Multiple Needs," in *Conditions of Children in California*, op. cit. See also David S. Seeley, *Education Through Partnership* (Washington, DC: American Enterprise Institute, 1985).

[26] Kirst, op. cit.

[27] See William J. Wilson, *The Truly Disadvantaged* (Chicago: University of Chicago, 1987), and Deborah L. Cohen, "Parents as Partners," *Education Week* (May 9, 1990), 13–20.

[28] See Sid Gardner, "Failure by Fragmentation," *California Tomorrow*, Fall 1989, 17–25.

[29] J. Danzberger, et al., "School Boards: The Forgotten Players on the Education Team," *Phi Delta Kappan*, September 1987, 53–59. For a historical view, see Michael Sedlack and Steven Schlossman, "The Public School and Social Services," *Educational Theory*, 35(4), 1985, 371–383.

[30] For an overview of how these ideas can be effective, see Lisbeth Schorr, *Within Our Reach* (New York: Doubleday, 1988).

[31] Gardner, op. cit.

[32] This bill is California Senate Bill 997, passed in the fall of 1989. Several California counties are now preparing "mega waiver" requests. For other state approaches, see Council of Chief State School Officers, *Family: Support, Education, and Involvement* (Washington, DC: CSSO, 1989).

[33] Luvern Cunningham, "Reconstituting Local Government

Chapter 6

Curriculum and Special Programs

For most of the 1980s, California has been a leader in the United States in reforming public school curriculum and changing the course-taking patterns of students enrolled in public schools. These efforts began in the early 1980s with changes in high school graduation requirements. Shortly thereafter, the state launched an ambitious series of efforts to restructure the curriculum by dramatically changing curriculum frameworks, altering textbook adoption criteria, revising the California Student Assessment Program to test the new materials in the frameworks, initiating a new statewide staff development effort, revising rules and regulations for the numerous state categorical programs, and in general stimulating efforts to change what and how students were taught. The anticipated results were that California students would know and be able to do more in the 1990s. It was hoped that all California students would learn sound content knowledge and be able to think, solve problems, and communicate.

California's curriculum change efforts were reinforced by the national education goals agreed to by President Bush and the nation's governors in early 1990. They stated that all Americans, not just a few, must be able to think for a living, adapt to changing environments and understand the world around them. Two of the goals are particularly relevant to curriculum issues. Goal three calls for all American students to demonstrate competency in "challenging subject matter" including English, mathematics, science, history, and geography. Goal four calls for United States students to be first in the world in mathematics and science.

This chapter describes California's efforts to achieve these objectives and some of the effects of those efforts. First,

HIGHLIGHTS

- California's combination of top-down and bottom-up strategy is one of the most sophisticated school improvement plans ever developed.
- California's curriculum is consistent with, and has responsibly responded to, national movements and national educational goals.
- Since 1983 California has vastly altered and intensified high school graduation and college entrance examination standards.
- State initiatives have also resulted in sweeping alterations in core curriculum areas, e.g. mathematics, science, language arts, history, and social studies.
- California's curriculum content guides and frameworks set the standard for the nation.
- California has made dramatic progress since 1983 in improving textbooks and requiring that they support the new curriculum.
- In the abstract, California's testing and accountability strategy is comprehensive, sophisticated, and practical. Because of funding cuts, it is useless.
- Important segments of a successful school change strategy have not been implemented because of the lack of resources. Without staff development and teacher training, for example, California is unlikely to ever achieve the education standards the public expects, students need, and the new global economy demands.

changes in high school graduation requirements are described, including subsequent changes in student course enrollments. California's initiatives in developing new curriculum frameworks and related policies, such as new textbook adoption criteria, are then described. These initiatives are placed in a nationwide context of public school curriculum revision. This section also includes results of two studies of implementation of the mathematics and science frameworks. The final section outlines California's efforts to place curriculum initiatives in the broader context of schoolwide visions of excellence for elementary, middle, and high schools.

HIGH SCHOOL GRADUATION REQUIREMENTS

The California legislature, state department of education, and state university systems have all enacted policies that, when combined, increase the number and types of courses high school students must take either to graduate or to become eligible for admission to the UC or CSU systems. The assumption behind the requirements is that students will learn more if they are exposed to broader academic content.

Legislative Changes

Senate Bill 813, California's omnibus 1983 school reform bill, increased statewide high school graduation requirements from almost nothing to:

- 3 years of English
- 2 years of mathematics
- 2 years of science
- 3 years of social science
- 1 year of foreign language or fine arts, and
- 2 years of physical education (previously required).

In 1985, Senate Bill 1213 added a semester of economics to these requirements.

State Board of Education Changes

In 1984, the State Board of Education adopted *model high school graduation standards* that were somewhat more rigorous than the Senate Bill 813 legislative requirements and included:

- 4 years of English
- 2 years of science (a year each of physical and life science)
- 3 years of mathematics (including algebra and geometry)
- 3 years of social sciences, including:
    - 1 year of world civilizations
    - 1 year of U.S. history
    - 1 semester of government
    - 1 semester of economics
- 2 years of the same foreign language
- 1 year of visual and performing arts, and
- 1 year of computer studies.

California University System Changes

The University of California (UC) entrance requirements have long been viewed as an additional determinant of high school curriculum. Because the required course sequence has six components, listed under the letters a-f, these high school courses are commonly referred to as "a-f courses." The current UC a-f requirements include:

a. 4 years of English
b. 3 years of mathematics
c. 1 year of laboratory science
d. 1 year of U.S. history or U.S. history and government
e. 2 years of the same foreign language, and
f. 4 years of approved electives.

There were no specific high school course requirements for first-time freshmen for the California State University (CSU) system from 1965 through 1983. Students were eligible for admission if they had a high school diploma and a sufficiently high score on CSU's Eligibility Index, a weighted combination, monitored and adjusted periodically, of high school grade point average and score on either the total score on the Scholastic Aptitude Test or the composite score on the American College Test. Students with grade point averages above a specified level were eligible for admission regardless of their scores on the standardized tests. The intent of these requirements was to create a pool of eligible students equal to the top one-third of the high school graduating class, consistent with the state's Higher Education Master Plan (1960) directive that CSU serve the top one-third of California public high school graduates.

In 1981, concerned that many students were entering ill-prepared for college, CSU trustees added specific course requirements in English (four years) and mathematics (two years). These revisions were first effective for students entering CSU in the fall of 1984.

In November 1984, the trustees directed the chancellor to develop recommendations for additional courses that should be required for entrance. The chancellor submitted a report to the trustees which led to the adoption in November 1985 of a resolution requiring a comprehensive course pattern of college preparatory subjects to become effective for first-time freshmen applicants commencing in the fall of 1988. For all regular admittees these were:

- 4 years of English
- 3 years of mathematics
- 1 year of U.S. history or U.S. history and government
- 1 year of laboratory science
- 2 years of foreign language (or competency)
- 1 year in the visual and performing arts, and
- 3 years of approved electives.

With the implementation of these new entrance requirements, it became clear that not all high schools were offering, nor were enough students taking, the required course pattern. Therefore, CSU modified its initial requirements to phase them in. For Fall 1990 and 1991, students need to have taken only 14 of the required 15 units, including at least 6 of the 7 units in English and mathematics. The new requirements will be fully implemented in Fall 1992.

In sum, during the 1980s, a variety of forces external to high schools in California combined, in an unprecedented manner, to create cumulative pressure for change in student course-taking patterns. Although proposed changes emanated from an array of sources, the changes were remarkably consistent and sent reasonably clear signals to high schools. The following section examines responses to these pressures for change.

Changes in Student Course-Taking Patterns

Since these new requirements were put in place, there have been significant alterations in the types of courses high school students take. Courses chosen are now more content oriented, more advanced, and more plentiful.

Figure 6.1 displays statewide average course enrollment trends for a four-year time period (1983–84 to 1986–87) after enactment of Senate Bill 813. Enrollments in academic courses increased substantially. Enrollments in three or more years of mathematics rose from 67 percent to 82 percent; in four years of English, they rose from 73 to 90 percent, in three or more years of science from 33 to 53 percent, and in four years of history or social science from 33 to 43 percent. Further, enrollments in the UC a-f courses rose from 38 percent in 1984–85 to 43 percent in 1986–87. Indeed, for nearly all courses provided in the chart, enrollments increased dramatically during this four-year time period.

Figure 6.2 shows changes in these course enrollments for 1987–88 and 1988–89, as well as the state goals for 1989–90, 1991–92, and 1993–94.[1] Again, the data display significant increases between 1988 and 1989, and the future year targets are significantly above those for 1989.

One concern is how pressures to change course enrollments affect ethnic groups in different ways. Figure 6.3 does not fully answer this question, but shows enrollments in advanced mathematics and science courses by student ethnicity, which indicate that Asian, Filipino, and Pacific Islander students have the highest enrollment rates in these courses, that white enrollment rates are quite close to the average for all students, and that American Indian, Hispanic and black student enrollment levels are far below the average, in many cases, a half or a third of that of other students.

CALIFORNIA'S CURRICULUM REFORM STRATEGIES

Also in the early 1980s, beginning in about 1983, the state department of education launched an integrated series of actions designed to ensure that new courses—indeed, the entire K–12 curriculum—would be substantially upgraded in

FIGURE 6.1 Course Enrollment Trends and Statewide Averages from the Performance Report for California Schools

	Statewide Averages			
Course Enrollments	1983–84	1984–85	1985–86	1986–87
Mathematics				
3 or more years	67%	74%	78%	82%
Advanced mathematics	28	32	33	36
English				
4 or more years	73	86	88	90
Science				
3 or more years	33	36	40	53
Chemistry	25	31	37	40
Physics	10	12	14	16
Advanced science	NA	NA	49	50
History/Social Science				
4 or more years	33	37	40	43
Foreign Language				
3 or more years	22	22	26	27
Fine Arts				
1 year art/music/ drama/dance	65	67	70	75
University of California Requirements				
Enrollments in a-f courses	NA	38	44	43
Graduates completing a-f courses	NA	NA	28	26
Units required for graduation	NA	NA	17	22

Statewide averages are based on grade 12 statewide enrollments unless otherwise noted. The values for advanced mathematics and advanced science represent the statewide rate of enrollment per 100 juniors and seniors. The values for chemistry and physics are the statewide enrollment.

SOURCE: State Department of Education, *Performance Report for California Schools 1988.*

FIGURE 6.2 Course Enrollments, Statewide Averages from the Performance Report for California Schools

Course Enrollments	Statewide Average		Statewide Targets		
	1987–88	1988–89	1989–90	1991–92	1993–94
Mathematics					
3 or more years	66.0	71.0	70.4	74.7	79.0
Advanced mathematics	36.1	38.3	40.7	44.9	49.1
English					
4 or more years	69.6	75.0	75.7	81.8	87.9
Science					
3 or more years	36.4	40.8	39.6	42.8	46.0
Chemistry	36.9	38.8	40.6	44.3	48.0
Physics	15.4	16.3	17.6	19.8	22.0
Advanced science	48.2	50.7	53.9	60.0	66.1
History/Social Science					
4 or more years	25.8	34.1	31.2	36.6	42.0
Foreign Language					
3 or more years	22.3	24.7	25.9	29.5	33.1
Fine Arts					
1 year art/music/drama/dance	52.5	56.7	55.7	58.9	62.1
University of Cal. Requirements					
Enrollments in a-f courses	44.6	44.7	47.0	49.5	52.0
Graduates completing a-f courses	28.2	30.3	31.7	35.4	39.1
Units required for graduation	22.5	22.6	23.0	23.5	24.0

Statewide averages are based on grade 12 statewide enrollments unless otherwise noted. The values for advanced mathematics and advanced science represent the statewide rate of enrollment per 100 juniors and seniors. The values for chemistry and physics are the statewide enrollment.

SOURCE: State Department of Education, *Performance Report for California Schools 1989.*

FIGURE 6.3 Ethnic Enrollments in Selected Mathematics and Science Courses, 1988–89

	Advanced Mathematics*	Chemistry**	Physics**
All Students	38.2	38.5	16.9
American Indians	21.9	23.8	8.2
Asian	78.5	66.9	39.7
Black	24.9	33.5	9.5
Filipino	57.1	56.3	29.0
Hispanic	22.6	28.2	8.3
Pacific Islander	44.8	53.7	29.8
White	39.8	37.8	17.1

* Rate is per 100 juniors and seniors enrolled.

** Rate is per 100 seniors enrolled.

SOURCE: State Department of Education, *Performance Report for California Schools, 1989.*

academic rigor. The curricular initiatives launched at this time separate California from most other states that have not had similar curricular change strategies. New course offerings in California tend to be substantively more rigorous[2] than in other states, where many new courses are simply old, watered-down courses with new names[3].

Periodically over the years, California has developed *curriculum frameworks* in all basic subjects. Curriculum frameworks are state-disseminated documents developed in concert with local teachers, district and county office curriculum coordinators, state and national curriculum content experts, and university professors. Frameworks are designed in part to identify the content to be covered, to provide an ordering of the subject-matter and sequence of topics, to identify themes with applicability across a range of issues and areas, and to suggest teaching strategies. The frameworks are not mandated for use by local districts, but since the onset of state education reform efforts in 1983, they have assumed greater importance and influence.

Mathematics and Science

Mathematics and science were the first content areas addressed in a systematic effort to upgrade curriculum. The major emphases of the new school mathematics framework (California State Department of Education, 1985) are on developing quantitative concepts and the ability to use them, teaching for understanding, and applying mathematics to everyday personal and professional life. The new mathematics "content" differs from the traditional mathematics objectives of adding, subtracting, multiplying, and dividing by emphasizing:

- Sense of numberness, quantity
- Measurement and geometry
- Patterns and function
- Statistics, probability and logic.

The traditional mathematics functions are included, but within this broader framework of quantitative concepts.

The new framework also emphasizes mathematical understandings that all students should develop, such as:

- Problem solving—on using mathematics for real life issues versus doing exercises. Problem solving is not just word problems, nor just one type of problem. Problem solving is *application in new contexts*.
- Facility with various approaches to computations and knowledge of how to select the most efficient approach.
- Ability to use calculators so that teachers can emphasize number sense, estimation, and appreciation for, and understanding of, quantities rather than arithmetic algorithms. Calculators should be used to decrease time devoted to computations and thus increase time spent on problem-solving activities.
- Facility with use of computer technologies.

The new pedagogical emphases incorporated into the mathematics framework are much broader than traditional direct instruction and include the need to:

- Teach problem solving by providing instruction in formulating problems, analyzing problems, selecting strategies to solve them, finding solutions, and verifying and interpreting solutions. The major teacher role is to encourage and help students "attack problems" by thinking about possible strategies and solutions.
- Teach for understanding (including mental arithmetic and estimation) versus teaching for memory by:
  - emphasizing understanding
  - teaching a few generalizations rather than numerous rules
  - developing conceptual schemas of interrelated concepts
  - taking more time to develop understanding.
- Use concrete, manipulative materials widely (well suited to the "concrete" cognitive development stage of young students in the early elementary grades) to develop underlying quantitative concepts.
- Use situational lessons that require numerous quantitative concepts and arithmetic calculations to be solved.
- Use cooperative learning groups.
- Use questioning and responding techniques that emphasize critical thinking skills.

The science curriculum frameworks also reflect several new directions and have undergone two transformations, first in 1983–1984, when California began its reform efforts, and again during the past year as the science framework was completely rewritten.[4] Both frameworks emphasized scientific literacy—seen as the marriage of content knowledge, scientific process skills, and attitudes about science, and the ability to use that expertise to understand the relationship of science to issues and problems of everyday life—for all individuals.

The most recent science framework, however, changed the typical "layer cake" approach to teaching physical (chemistry and physics), earth, and life sciences into a much more integrated approach. Specifically, the new Science Framework emphasizes six major themes of science: Energy, Evolution, Patterns of Change, Stability, Systems and Interaction, and Scale and Structure. This new approach mirrors current thinking about scientific content and instructional practices as presented in *Science for All Americans*, a report issued by Project 2061 of the American Association for the Advancement of Science (1989). Project 2061 argues that a thematic approach to science instruction reveals the important connections that exist among the various disciplines of science, enabling students to understand the rapidly changing world. In the new framework, this thematic approach shifts the emphasis of science education from memorization of isolated facts and concepts in different science areas to an integrated understanding of the natural world. The themes go beyond facts and concepts—they link theoretical structures of various scientific disciplines and integrate overarching concepts of science into a curriculum.

Through the use of themes, students can be shown how the parts of science fit together logically and what they learn can be used to describe other kinds of phenomena. Themes can be used to direct and connect the design of classroom activities following a logical scope and sequence of instruction. Rather than strict repetition of facts learned in chapters and units, students explain the connections among the facts according to the theme studied.

To achieve scientific literacy for all students, the new Science Framework[5] outlines the following expectations for science programs:

- The major themes underlying science are developed and deepened through a thematic approach.
- The three basic scientific fields of study—physical, earth, and life—are ideally addressed each year, and the connections among them are developed.
- The character of science is shown to be open to inquiry and controversy, and free of dogmatism; the curriculum promotes student understanding of how we come to know what we know and how we test and revise our thinking.
- Science is presented in connection with its applications in technology and its implications for society.
- Science is presented in connection with students' own experiences and interests, frequently using hands-on experience integral to the instructional sequence.
- Students are given opportunities to construct the important ideas of science, which are then developed in depth, through inquiry and investigation.
- Instructional strategies and materials allow several levels and pathways of access so that all students can experience both challenge and success.
- Printed materials are written in an interesting and engaging narrative style; in particular, vocabulary is used to facilitate understanding rather than as an end in itself.
- Texts are not the sole source of the curriculum. Ordinary materials and laboratory equipment, video and software, and printed materials other than texts, such as reference books, provide a substantial part of student experience.
- Assessment programs are aligned with the instructional program in both content and format; student performance and investigation play the same central role in assessment as they do in instruction.

Instructional approaches for science still include the following:

- An emphasis on scientific problem engagement, hands-on activities, and laboratory approaches to teaching science.
- Increased time for science in elementary and middle grades.
- The use of appropriate computer technologies, including science simulations.

History-Social Science

The new history-social science framework[6] places history at the center of the study of the social sciences and humanities as the glue that makes the past meaningful and provides the lens through which children and adults can come to understand the world they live in and how it is shaped. Further, history is placed in its geographic setting to establish human activities in place as well as time. A sequential curriculum thus integrates history and geography with the humanities and the social sciences.

The new curriculum was designed to have students (1) study the interrelationships among domestic and international politics, economic changes, technological advances, demographic shifts, and the stress of social change, current, past, and future and (2) develop understanding of the connections between ideas and behaviors, between values and ideals people have and their consequences, to understand that values and ideas have consequences, and recognize that history is not the passive ebb and flow of events but can be, and has been, shaped and changed by the ideas and actions of individuals and governments. The framework also included a new and more intense emphasis on history, including a history focus for 6 of the 12 years of schooling.

The major overall goals of the new history-social science framework were:

1. Knowledge and cultural understandings such as historical, geographic, sociopolitical, economic, cultural, ethical literacy;
2. Democratic understandings and civic values such as national identity, constitutional heritage, and civic values, rights, and responsibilities;
3. Basic study and critical thinking skills, and social participation.

The major key objectives of the new history-social science framework were to:

- Focus on the chronological study of history, but placed in geographic settings. History and geography form the two disciplines that must be integrated. Events and changes occur at specific times and in specific places.
- Integrate the teaching of history with other humanities and social science disciplines such as the study of religion, culture, art, architecture, law, literature, science, diplomacy, politics, economics, and sociology.
- Enrich the study of history with other literature both *of* the period and *about* the period.
- Emphasize the study and understanding of *major historical events* and periods *in depth* rather than skimming broad ranges of events and dates—depth and understanding over breadth and simple coverage.
- Include an explicit multi-cultural perspective throughout the history-social science curriculum.
- Expand and enrich history-social science instruction in elementary grades by including issues that affect more than the local neighborhood and community.
- Offer three years of both world history and U.S. history but covering different topics and time periods at each grade level.
- Include a specific focus on values and ethical issues:
  - encourage development of civic and democratic values
  - study and discuss frequently the fundamental principles and rights embodied in the U.S.Constitution and the Bill of Rights
  - inclusion of importance of religion in human history
  - presentation of controversial issues honestly and accurately within their historical or contemporary context
- Include critical thinking skills at all grade levels
- Incorporate a variety of content-appropriate teaching methods that engage students actively in the learning process, including cooperative learning, reading, discussion, writing, and the increased use of new technologies.

Language Arts

In 1988, the California State Department of Education published the new language arts curriculum framework.[7] The goal of the English-language arts program is to develop a literate, thinking society. The assumption is that language is fundamental to the ways humans learn and make sense of things and should be seen holistically rather than as the sum of particular parts, such as vocabulary, spelling, and grammar.

How best to teach reading and language is an issue debated in education that is rooted in the nature of the English writing system. The question is whether instruction should be meaning-centered because the purpose of reading is comprehension (the whole language approach) or whether it should be skill-centered because recognizing words is a prerequisite to reading (the skills or phonics approach).[8]

The California English-Language Arts Framework represents a compromise between the whole-language approach and the skills approach. It calls for a literature-based, meaning-centered instructional program in which integrated language arts instruction stems from core literary works, and skills will be taught in meaningful contexts. Students will learn to read and write by reading and writing. Extended reading of works that emerge from class study as well as recreational/motivational reading will be used to immerse students in reading followed by stimulating discussions and writing experiences. Literary collections in school libraries will be easily accessible to students. Further, the framework is meant for all students.

The new framework includes the following emphases:

- A literature-based program that encourages reading, exposes all students to significant literary works, and teaches skills in meaningful contexts.
- Integration of listening, speaking, reading, and writing in meaningful contexts and integration of language arts across subject areas.
- Guiding students through a range of thinking processes as they study content and focus on aesthetic, ethical, and cultural issues.
- Systematic, developmental instruction that is articulated in grades K–12.
- A writing program that follows the stages of the writing process from pre-writing through post-writing and from content through form and correctness.
- An oral language program in which all students experience a variety of speaking and listening activities that are integrated with reading and writing.
- A simple phonics program taught in meaningful context and completed in the early grades.
- A school environment where teachers of all subjects encourage students to read widely, write frequently, and speak effectively.
- A school environment where all adults support and model effective use of all the language arts, including reading, writing, listening, and speaking (California State Department of Education, 1988).

Kucer and Silva[9] indicate that the departure from past language arts beliefs and practices appears so great that a "paradigm shift" may be required for many teachers. They note that the following past practices are not to be included in future language arts instruction:

- Isolated bits and pieces of written language
- Emphasis on skill sheets, spellers, and scope and sequence charts
- Segmentation of language into its various expressions of listening, speaking, reading, and writing
- Developmental series of frameworks, each designed to meet the needs of particular groups of students.

Implementation of the new English-Language Arts Framework in many California classrooms is currently in its second year. Dramatic changes in teaching skills and instructional practices of teachers will be required to fully implement all of these bold new curriculum frameworks.

Common Themes Across All Frameworks

Common themes across all these new frameworks include the following:

- A problem solving orientation
- Basic skills, facts, and knowledge are best learned in context by engagement in problem solving rather than in isolation through direct instruction
- Integration of content, skills, and disciplines—multidisciplinary
- Multi-cultural emphasis
- Complex thinking skills
- Specifically addressing ethical issues, controversial topics and values, both past and present.

- Depth over breadth
- More content substance in the elementary grades: mathematics, science, history, and language arts.

Common pedagogical emphases included:

- Engaging students in issues, problems, dilemmas
- Reading, listening, discussing, and writing across different content areas as ways to learn basic skills, facts, and knowledge as well as solve problems
- Reading, listening, discussing, and writing about great books—literature, history, and so forth
- Cooperative learning
- Attention to cognitive development and new approaches to and understandings of how to enhance children's cognitive capabilities
- Learning activities that "engage" students.

The National Curriculum Reform Context

During the past few years, national attention has centered on the content of the school curriculum—knowledge and skills that students must learn. Several recent national curriculum reform reports—covering the core subjects of science, mathematics, social studies, and language arts—reflect common themes within and across content areas. California's curriculum frameworks embody much of what is recommended in these broader, national reports.

The recent national curriculum reports reflect an emerging consensus that the restructuring of education requires a major overhaul of school curriculum. Several professional groups within education advocate major alterations in the public school curriculum in all subject areas:

- Reading/Lan*guage Arts.* The National Council of Teachers of English's (NCTE) long-standing concern about the dominance of basal readers was openly challenged in its *Report Card on Basal Readers* (1988). The next year, the NCTE issued its first major reform statement in twenty years, *Democracy Through Language*, which responded to some school reforms that had narrowed the curriculum and constricted instruction. The report indicated that teachers should coach students rather than dispense information and judge answers, and that students should be actively engaged in learning through constant use of language in meaningful ways. Recommendations included integrating oral language, writing, and literature; using literary works rather than basal readers; eliminating ability tracking; and emphasizing consistent authentic assessment by classrooms teachers.
- *Mathematics.* Major reports by the National Research Council[10] and the National Council of Teachers of Mathematics[11] outlined a new vision of mathematics education and set standards for instruction grounded in the principle that students learn math by doing it in purposeful contexts. The reports recommend that elementary students develop number sense, which includes common sense about how to choose a method to find a solution to a problem and how to apply it to solve the problem. At the secondary level, the reports recommended that students study a common core of mathematics to acquire symbol sense and develop understanding of mathematical models, structures, and simulations that are applicable to many disciplines. It was also recommended that calculators and computers be available to all students at all times. In sum, there is growing professional consensus that mathematics knowledge should develop from individual and group experience with problems as students are guided to search for answers to questions.
- *Science.* As in language arts and mathematics, science instruction is crossing the traditional boundaries between academic disciplines. Project 2061 (named for the year Halley's comet will return) is a three-phase plan of action by the American Association for the Advancement of Science (AAAS) designed to contribute to the development of science, mathematics, and technology education. Phase I, *Science for All Americans* (1989), defines a conceptual base for science reform by outlining the knowledge, skills, and attitudes that all students should acquire as a result of their experiences from kindergarten through high school. The report identifies the level of scientific literacy that should be acquired by all students:
  - being familiar with the natural world and recog

nizing both its diversity and its unity

- understanding key concepts and principles of science
- being aware of the important ways in which science, mathematics, and technology depend on one another
- knowing that science, mathematics, and technology are human enterprises and knowing what that implies about one's strengths and limitations
- having a capacity for scientific ways of thinking for individual and social purposes.

In Phase II, AAAS is now developing alternative curriculum models to put the scientific literacy into the public schools. Implementation of the recommendations of the project will occur in Phase III.

Curricular reform has also been on the action agenda of the National Center for Improving Science Education[12] and the National Science Teachers Association (NSTA).[13] The National Center's report on elementary science calls for an emphasis on science that equals that of the other core subjects. Science instruction should focus on fewer topics in more depth and on the skills needed for investigating and problem solving. NSTA's 1989 report, *Essential Changes in Secondary Science: Scope, Sequence, and Coordination*, indicates that formal, integrated scientific study should begin in the seventh grade with emphasis on the description of phenomena that will prepare students for more abstract concepts in high school.

- *History-Social Science*. In 1986, the first national assessment of history and literature was funded by the National Endowment for the Humanities, a federal agency, and conducted by NAEP. Nearly 8,000 17-year-old students were tested on their knowledge of history and literature. The history portion of the assessment tested knowledge of American history. The average student answered 54.5 percent of the questions correctly. Ravitch and Finn's[14] analysis of the results rated students' overall performance as extremely weak and suggested that ignorance of basic knowledge may seriously handicap the generation entering adulthood, citizenship, and parenthood. They proposed the following strategies for improving the teaching and learning of history:
  - Teach history in context so that people and events are portrayed in relation to consequential social and economic trends and political developments. Richly drawn portraits of times and places must include a sense of many dimensions of life—ideas that influenced people's behavior; their religious, philosophical, and political traditions; their literature, art and architecture; their knowledge and technology; their myths and folktales; their laws and government.
  - Study history from the earliest grades through high school.
  - Study world history at least two years, including study of the evolution of the democratic political tradition and historical interconnections among different nations and societies.
  - Recognize chronology as a basic organizing concept that helps make sense of events in the past and the relationships among them.
  - Incorporate geography in the study of history at every grade level in order for students to understand how people and the places they inhabit influence each other.
  - Enliven the study of history by using narratives, journals, stories, biographies, and autobiographies to tell the story of men and women whose decisions, beliefs, actions and struggles shaped their world.
  - Stress the human dimension which illumines the characteristics of individuals who have shaped events through their struggles, accomplishments, and failures.

In addition to history and geography, the social sciences include sociology, anthropology, social psychology, political science, and economics. While the social disciplines all seek explanation of the same phenomenon—human social life—and have grown out of the attempt to interpret, understand, and control the social environment, each field formulates its own questions and develops its own system of concepts to guide its research, resulting in a vast confederation of separate areas of study, modes of thinking, and analysis.[15] In addition to the social science disciplines, the National Commission on Social Studies in the Schools[16] defined the social studies to include government and civics, as well as subject matter drawn from the humanities—religion, literature, and the arts. While history and geography are recognized as the central subjects, curriculum builders face the enormous question of what concepts and methods should be included in the curriculum for all students to provide a comprehensive view of human functioning in society.

Although these professional reports were developed by independent groups focusing on specific academic disciplines, Lewis[17] found that they included the following common themes, much of which parallel what is already being implemented in California:

1. *Integration of curricula.* Proposals include reading and writing across subject areas; alignment of texts, teachers' manuals, and assessment; and interdisciplinary teaching.
2. *Emphasis on thinking skills.* The inability of students to go beyond basic skills to elaborate, synthesize, and solve problems is a consistent finding of NAEP. The curriculum reports indicate that this failing is related to uncreative instruction strategies and dull content. Lewis found that the reports point to the pattern beginning with the "minimalism" of basal readers, continuing through secondary texts, and including minimum competency testing focused on discrete, unelaborated skills.
3. *More rigorous content for all students.* Remedial programs have been criticized for putting students at a disadvantage by using repetitious, dull instructional strategies that do not match learning styles. Since the 1983 reforms, vocational courses have been replaced in many states (but not California) with minimum-content academic courses which further disadvantages a large number of middle- or low-achieving students.
4. *Acknowledgment of the limits imposed by standardized testing.* Educators are taking the lead in changing the nature of student assessment. Several states are experimenting with different assessment techniques that emphasize higher-order skills.

Thus, while California's curriculum frameworks represent bold new directions and breaks from past practice, they also reflect emerging professional and nationwide consensus of what students should be taught in elementary, middle, and high schools. Further, when the frameworks are implemented well in all classrooms, they should help California accomplish on a statewide basis the student achievement components of the nation's education goals and should greatly improve achievement for all groups of students.

Curriculum-Related Initiatives

California's underlying curriculum reform philosophy is twofold. Public school education will improve when (1) all those who are responsible for student learning clearly understand what is to be taught and how, and (2) all students, not just those traditionally expected to go to college, successfully experience the core curriculum. The first step in implementing this philosophy was to create new curriculum frameworks. Each subject area framework articulates the professional consensus about what constitutes a core curriculum. But the frameworks do not stand alone. Several other initiatives have been undertaken to help get the frameworks implemented in schools and classrooms. This section discusses several, but not all, of these complementary activities.

Model Curriculum Standards and Guides

S.B. 813 mandated publication of the *Model Curriculum Standards, Grades 9–12*,[18] which were intended to help high schools improve the quality of academic coursework. The *Standards* provided direction for the course content to which students would be exposed because of the increased high school graduation requirements. The *Standards* also provided a preview of the content that should be included in more rigorous high school courses before all the curriculum frameworks could be officially changed. Model curriculum guides for grade K–8 in each content area were aligned with the state's *Model Curriculum Standards*, as well as the evolving curriculum frameworks.

Together, the guides and the *Standards* provide more detail than the frameworks. For each subject, they suggest a learning sequence and they specify concepts, skills, activities, and pedagogical strategies that can be used to implement the frameworks. Sequencing essential learnings by grade level organizes the large amount of content information and simultaneously illustrates that learning is a nonlinear process involving a continuous overlay of concepts and skills that ever broaden and deepen students' understanding. The content and model lessons offer teachers a way to see the framework in practical classroom terms. For example, teachers are given examples of how to lead discussions, frame questions, design activities containing multiple levels of learning, and put into practice critical components of the framework.

State Textbook Adoption Process and Instructional Materials

The textbook adoption process is the primary avenue through which high-quality instructional materials are provided to California students. There are three major levels of the lengthy and complex review process: social content, educational content, and public comment. The guidelines for textbook adoption, contained in *Standards for Evaluation of Instructional Materials with Respect to Social Content*, reflect the state's legal and policy requirements for a wide range of social concerns and establish social contents review panels that are balanced in terms of age, gender, and ethnicity, with disabled individuals included, if possible.

The next level of review is an examination of the materials' educational content by the Instructional Materials Evaluation Panel (IMEP), comprised of teachers and other curriculum personnel with expertise in the subject matter being reviewed. Instructional materials are evaluated, using instruments developed by the Curriculum Development and Supplemental Materials Commission and approved by the State Board of Education, for factual and technical accuracy, educational value, and quality in accordance with the state's curriculum framework. IMEP members—teachers, administrators, college and university personnel, and curriculum experts—receive extensive training to evaluate materials.

Opportunities for the public to comment on the materials under consideration are included throughout the review process. The materials are available for review at thirty Instructional Materials Display Centers throughout California.

The IMEP findings are reported to the Curriculum Commission which then conducts public hearings as part of an information gathering process. The Commission recommends instructional materials to the State Board of Education. The state board then holds a public hearing, after which it decides on the instructional materials that should be adopted for use in California schools.

School districts have their own procedure for choosing the approved materials that match their particular needs. The state annually apportions Instructional Materials Funds (IMF) to districts for purchasing instructional materials. IMF is allocated based on average daily attendance for each student in kindergarten through grade eight. In 1988, $27.63 per pupil was allocated, amounting to a total of $88.5 million. For grades 9–12, there is no state textbook adoption; IMF totaling $24 million was apportioned in 1988 to districts for students in grades 9–12.

Districts have four options for obtaining instructional materials with IMF allocations for kindergarten through grade 8:

- At least 80 percent must be spent on state-adopted materials.
- Up to 15 percent may be spent on materials that have passed state social content review and on library/trade books.
- Up to 5 percent may be spent on any instructional materials, tests, inservice training.

In developing textbook selection criteria for each subject area framework, California has grappled with the difficult issues involved in defining what students should know and be able to do and has faced them head on, departing significantly from the textbooks available. California controls an estimated 11 percent of the nation's $1.7-billion textbook market[19] and, as a result of the frameworks, knows specifically what it wants in a textbook. California is using the textbook as a powerful tool to put its frameworks in place in the classrooms. To understand how California is doing this, a close examination of the curricular reform process in operation in history-social science is revealing.

The history-social science textbooks were scheduled for adoption in 1990. Only a handful of publishers attempted to tailor books to California's new framework, not wanting to risk investment in books that could not be sold elsewhere in the country. The Association of American Publishers said that, because the California framework is dramatically different from the rest of the country, publishers weighed the probability of their return on investment if they responded to the new framework. A California curriculum-review commission, by rejecting the history and social-studies texts of all but two publishers who submitted books for review, signaled that, in fact, California wanted its new curriculum . Only ten books—Houghton Mifflin's K–8 series and an 8th grade book published by Holt, Rinehart & Winston—were selected as meeting the content demanded of the framework. In fact, Houghton Mifflin is the only publisher which completely overhauled its entire set of texts to meet California standards. One other book submitted by another publisher was divided in half, with one half adhering to California's framework and the rest following the other states' curricula.

Although the framework was adopted three years ago, public attention did not focus on what it meant until faced with the textbook adoption process. A framework represents the formal curriculum, but the books used to teach that curriculum in the classroom represent the curriculum that is actually enacted. Thus, when specific books were recommended, the full meaning of the new frameworks became clearer to the public. The ten books were criticized by spokespersons for religious and ethnic groups, protesting omissions, inaccuracies, and misrepresentations, and arguing that the books did not go far enough in portraying the history of their culture or religion. On recommendation of the commission, publishers made modifications to address some of the complaints. It was concluded that a textbook cannot completely represent every aspect of a multicultural perspective and that the books come closer to doing so than anything now available. Putting the magnitude of the task in perspective, Linda Sanford of Houghton Mifflin indicated that if every point of culture were represented, a textbook would have to be the size of the Manhattan telephone directory. Supported by a national agenda of reversing the "dumbing down" of textbooks and against heavy political attacks, the commission and the State Board of Education approved the books in October 1990, finding that these books celebrate the story of one nation, and many peoples.

Although California school districts are not required to buy only state-approved textbooks, they may spend only 30 percent of their state funds on the purchase of unapproved books. Many districts follow the state's textbook-adoption schedule in purchasing books, and it is expected that they will spend an estimated $200 million on new history and social science textbooks over the next three or four years. Under a new 1989 California law, publishers can submit new books for approval every two years rather than follow the seven-year cycle for the next formal adoption of history and social science textbooks. While the impact of California's framework and textbook adoption experience on setting a new standard across the nation is unknown, West Virginia and Arkansas have already approved the Houghton Mifflin books.[20]

Similar controversies have surrounded the textbook adoption process for language arts, mathematics, and science. A new Houghton Mifflin series of language arts textbooks, using many original versions of children's stories and tales (which at times can be quite graphic), have been criticized in several California communities, as well as communities across the country. The state initially rejected all mathematics textbooks produced by publishers in response to the new mathematics framework, and textbook adoption was delayed a year until a greater array of revised texts, more closely following the framework, were produced. Similarly, the state initially rejected the science textbooks that were offered in 1984, and science textbook adoption also was delayed a year. In short, these experiences provide concrete evidence that California is determined to align instructional materials with the new curriculum frameworks, even if it means year-long delays in textbook adoption.

Professional Development

Recognizing the critical role of teachers, a key California objective for the last seven years has been to create ongoing mechanisms for large-scale professional development. The focus has been on the particular methodologies in each subject area that are directly related to the knowledge and skills of each discipline as outlined in the framework. The passage of SB1882 (1988), a major new staff development program, is helping create an infrastructure for subject matter staff development .

Several other state policies and programs have been enacted or modified to support the curriculum framework implementation process, including the state's school improvement program and its program quality review process, mentor teacher programs, and Administrator Training Centers, which train principals in curriculum leadership related to the new frameworks.

Accountability Mechanisms

New procedures to report on the progress of curriculum reform and student achievement were also launched in the early 1980s. Performance Reports are a critical part of accountability. A comprehensive set of indicators is produced annually to characterize the quality of each school's and district's performance—information needed to assess current student achievement, progress from the base year and from year to year, and to set goals for future performance. Statewide targets for each quality indicator provide a basis for individual schools and districts to set their own targets and establish improvement strategies to meet state goals. The reports also allow schools to compare their performance with other schools. There is a local portion of the performance report, developed by the school or district, that includes quantitative data, qualitative assessments, and professional judgments about a school's performance and progress toward school improvement. Local information includes quality indicators such as the quality of the instructional program, nature of the learning environment, amount and quality of writing and homework, and the numbers and types of books read by students. For high schools the quality indicators include: increased enrollments in selected academic courses, improved statewide test scores, reduced dropout rates and increased attendance rates, and improved performance of college-bound students on the SAT, ACT, Advanced Placement Exams, and College Board achievement tests.

Mandated school report cards add a further element to these reporting strategies. This mandate was part of the voter-approved Proposition 98 initiative that altered the state constitution to require the state to spend a minimum proportion of its general fund budget on K–14 public education. The accountability report card was considered an important component of the proposition to maintain accountability to the public for the additional funds the proposition likely would target to education. The report card must include an assessment in each of the following thirteen areas:

Inputs:

1. Estimated expenditures per student,- and types of services funded
2. Teacher and staff training, and curriculum improvement programs
3. Availability of qualified substitute teachers
4. Availability of qualified personnel to provide counseling and other student support services

Process:

5. Safety, cleanliness, and adequacy of school facilities
6. Classroom discipline and climate for learning
7. Progress toward reducing class sizes and teaching loads
8. Quality and currency of textbooks and other instructional materials
9. Assignment of teachers outside their subject areas of competence
10. Adequacy of teacher evaluations and opportunities for professional improvement
11. Quality of instruction and leadership.

Outcomes:

12. Student achievement in, and progress toward, meeting reading, writing, arithmetic and other academic goals
13. Progress toward reducing dropout rates.

Information for most of these categories of data are currently collected by the state and made available to each local school and district. While not organized as presented above, the categories of data required for this report card are close to the full complement of data variables that constitute the core variables for a full-fledged educational indicator system. The first school accountability report cards were produced sometime during the 1989–90 academic year. Potentially, these reports could become penetrating analyses of the education systems in all of California's schools and school districts. Whether the full potential of this analysis is tapped is yet to be seen.

The California Assessment Program

The purpose of the California Assessment Program (CAP) was to assess student achievement in these new curriculum areas, especially the new content and higher-level thinking skills. CAP was mandated for all students in grades 3, 6, 8, and 12. Since scores were released to the press, local schools and districts paid attention to them. Each annual CAP report summarized three years of data and was sent to schools in November-December of each year.

When California's 1983 education reform expanded CAP to include grade 8, the content was also expanded from reading and mathematics to include science, social studies, and a direct writing assessment. Reading also stressed content by including passages of science and social science, and thus reinforced the subject-matter portions of CAP. The grade-8 CAP was the first to cover the full range of content areas for CAP testing. History/social science was added in 1984–85, and science was added in 1985–86. Beginning in the spring of 1987, the grade-8 test included a direct assessment of students' writing.

A new 12th grade CAP test was administered during the 1987–88 school year. First, the basic skills focus of reading and mathematics was replaced by a more application-oriented and higher-level thinking skills focus for reading and mathematics. In subsequent years, science and social studies were to be be added as new content areas. The new 12th grade CAP test also included direct writing assessments.

Unlike many other standardized tests that are composed of a small number of items and whose security is much more vulnerable, CAP was a "matrix sample" type of test in which each subject area was tested by a large number of items, only a small portion of which are taken by any one student. The selection of test questions, therefore, varied for individuals within the same classroom. While this system did not allow the development of individual pupil scores, it provided a highly reliable and robust measure of the subject matter in question.

The state's philosophy was that CAP was a model for what children should learn and an instrument for feedback to community and legislators—a curriculum-oriented program of accountability to let schools and the public know how well students were doing.

By the 1990–91 school year, the full battery of new CAP tests was to have been in place and would have given California one of the most comprehensive and advanced student testing programs in the country. These tests were to be complimented by a new set of Golden State Examinations, which are academic tests for college preparatory courses in high school. These tests were further complimented by state-mandated (locally designed and administered) tests of competency in the minimum basic skills. Combined, these tests would have provided extensive information on student achievement in California (excluding student performance tests for assessing higher level cognitive process for which the state is conducting development work).

In the budget battles of 1990, however, funding for the CAP program was vetoed by the governor, and legislative attempts to provide funding also were vetoed. So as this report is published, California does not have a CAP testing program. CAP not only was viewed as one of the top state student assessment programs in the country, but also its revision was leading the nation in producing a performance or authentic assessment program, i.e., a student assessment that was actually getting individual student performance data to indicate what students know and can do. There is expectation that the 1991 legislature will restore CAP in some version.

Implementation of the Mathematics and Science Curriculum Frameworks

Marsh and Odden[21] coordinated seventeen case studies of local implementation of California's mathematics and science frameworks during the 1988–89 school year. They found strong and positive responses to the new frameworks. Local teachers and administrators said that the frameworks:

- Fit with national views of "good" subject-matter content as reflected in reform reports and visible research
- Reinforced good local priorities (as many districts were already working in the directions proposed by the frameworks)
- Were credible (since teacher, district, and county leaders in the subject areas helped write the frameworks
- Were accessible, understandable, and feasible to implement, being flexible enough to allow for local adaptation yet focused enough on essential and new concepts to represent a powerful new view of curriculum in the subject areas.

Marsh and Odden produced four major findings about local implementation:

- At a gross level, nearly all components of the science and mathematics frameworks were being implemented—both new content emphases and new teaching strategies. The study was not able to assess the depth of implementation. But the study found that most key elements of both science and mathematics frameworks were being worked on in the schools studied.
- An antecedent implementation phase, prior to formal adoption of the new curriculum, was important for building local capacity to implement the new curricula. During this phase individual teachers attended staff development activities that provided training in both new content and pedagogy, linked up with regional technical assistance networks, and began to develop program components that would become parts of the new curriculum. Thus, some local capacity for the new curriculum was developed prior to formal adoption of the new framework.
- A new pattern of "top-down" and "bottom-up" initiation was seen. The state frameworks were "top-down" policy directives. During the antecedent phase, however, efforts were primarily "bottom-up" in that teachers and schools were the initiators. During the formal district adoption phase, the reform was coordinated at the district level ("top-down"), often using teachers who had been active in the antecedent stage ("bottom-up"). During the formal adoption phase, lead teachers gained respect for their technical expertise rather than being viewed merely as "workers" who knew the classroom and its realities. During implementation, the change process became primarily site based ("bottom-up") rather than district led. With multiple major reforms underway, district leadership often was overwhelmed. Consequently, site-based efforts were essential for more advanced implementation.
- State policy initiatives were important in funding professional network activities (such as the Cal Math and Lawrence Hall of Science projects), establishing a new curriculum vision and educating local leaders in it, defining accountability mechanisms, and formalizing teacher leadership roles by providing incentives and rewards that increased the attractiveness of the roles.

The study suggests that a more complex implementation process seems to be successful for multiple and fundamental curriculum reforms. Districts that used a district-led and orchestrated model became overloaded when they initiated new program implementation in a second curriculum area, usually mathematics. The typical response was to drop most district-coordinated follow-through activities for the first curriculum area, usually science. It appeared that in some cases the district would, in turn, drop mathematics when they moved to language arts the next year.

Ongoing assistance and pressure to continue implementation is critical for effective implementation. Marsh and Odden found that in many districts, expert lead teachers actually took over site implementation and continued the process, complete with intensive ongoing teacher assistance and professional pressure to move toward full implementation. These teachers were usually individuals who actively participated in the antecedent phase. Teacher professional knowledge and expertise were critical in developing a site culture of what constituted good science and mathematics. Thus, when the district moved on to adoption of the next curriculum area, the professional culture took over at the school and continued an expertise-driven, teacher-led process of continued focus on full implementation. Teacher experts assumed informal authority in the school for continuing the site implementation process.

Cohen's case study of the implementation of the mathematics framework in California suggests that fully implementing the new California curriculum framework will be exceedingly difficult. Cohen observed about twenty teachers periodically for nearly a year. He found, just as Marsh and Odden had, that there was strong and positive local response to the mathematics framework, enthusiasm for working hard to implement it in the classroom, and willingness to attend staff development and other activities to develop new knowledge and expertise to facilitate classroom implementation. But Cohen and his colleagues found that even the most enthusiastic teachers were not making the fundamental changes in classroom practice to implement the letter and spirit of the new mathematics. More manipulative materials were used, there were lessons on problem solving and estimation, and some cooperative learning groups were used, but Cohen did not find basic reorientation of what mathematics was and how it was to be taught, as reflected in the framework. He found a melange of new ideas and materials intermixed with old emphases on learning the mathematics algorithms and direct instruction pedagogy. He concluded that while the framework was being implemented at the gross or perhaps even superficial level, it would require major new efforts to bring about the fundamental "paradigm" shift required by the framework.

The studies by Cohen and his colleagues and those of Marsh and Odden suggest that while the *will* exists to implement the new California curriculum frameworks, the *capacity* to do so is far from sufficient. Indeed, the findings of Cohen and his fellow case-study researchers raise the question of whether California's (or any current state's) education system, even in the medium term, is capable of changing classroom curriculum and instruction so dramatically. He concludes that the new curriculum is the "right" kind of curriculum, but argues that vast and basic changes in how the education system is organized will be required in order to fully implement these bold new conceptions of school mathematics.

Kucer and Silva raised the same concerns with regard to classroom implementation of the language arts framework. Kucer and Silva argued that the language arts framework compromises on the debate over whether to focus on meaning or phonics and skills. They suggest that teachers focus on meaning but also continue to teach the skills. It should not come as a surprise, they predict, that many teachers might implement the framework by taking works of classical literature and teaching them as one would a basal reader. Such implementation practices would be a first-order change.

The challenge of the 1990s in California and across the country will be to successfully implement second-order curriculum and school changes. Current curriculum reforms are comprehensive and include both the content of what is taught and the process by which it is taught. Fullan[22] indicates that what is needed are powerful reforms and strategies to achieve powerful change. The comprehensive reforms needed to implement the frameworks require restructured schools as well. The California vision for what restructured schools should be is discussed next.

SCHOOLWIDE VISIONS OF EXCELLENCE

In 1988, California issued a major report on middle schools entitled, *Caught in the Middle*.[23] The report outlined a comprehensive vision of what an excellent middle school would be. The report was produced, in part, because the 1983 reforms had focused on high schools, the curriculum frameworks had focused on elementary schools, and to a degree, the middle or junior high schools had been forgotten. The report also was produced because the state knew that the new curriculum frameworks needed to be implemented in schools, and successful implementation required significant changes in school and classroom organization. In 1990, the State Department of Education created two new task forces, charging one with creating a comprehensive vision of what an excellent elementary school should be and the other with creating a comprehensive vision of what an excellent high school should be. When the reports of these two new task forces are published, California should have schoolwide visions of excellence for all levels of schooling—elementary, middle, and high schools.

The Effective Elementary School

The elementary school task force is likely to make recommendations for creating effective elementary schools[24] in six major areas:

- curriculum and instruction
- the learning environment
- the teaching profession
- student assessment
- coordinating students services
- school organization and governance.

The task force will recommend that the current California curriculum frameworks should be implemented in all elementary schools. The task force concluded that the frameworks have adequately addressed the content of the curriculum in effective elementary schools, and will suggest that a wide array of instructional strategies is needed to teach that content effectively for the increasingly diverse California student body. The report will recommend that elementary schools move towards a "constructivist" learning model that draws from cognitive psychology and assumes that children learn best when they fit new knowledge and information into acquired knowledge and experiences rather than viewing students as empty vessels. This perspective assumes that all students bring to school rich language and experiences which can be used to stimulate further learning.

In terms of school organization, the task force will recommend the need for flexible classroom space that allows students to work individually and in groups on a variety of learning activities. It also will recommend bonding parents as well as students to school through a variety of new parent and community involvement strategies, and using discipline programs that stress acceptance of student responsibility for discipline rather than punitive approaches to punishment.

The teaching profession recommendations will include increasing the number of minority teachers, recruiting more elementary teachers who have expertise in high priority areas such as mathematics and science, building partnerships between schools and universities and linking preservice training directly to the knowledge and teaching strategies needed to implement the new curriculum frameworks, providing much support for new teachers, and dramatically expanding professional staff development targeted to the knowledge and expertise needed to implement the curriculum frameworks.

The student assessment recommendations will stress moving away from multiple choice types of examinations and toward authentic assessments of what students know and can do that include performance testing, portfolios of student work, and anecdotal records.

The report will make strong recommendations for considering the school as one site for coordinating social services for children. The basic conclusion here will be that the structure for providing non-education services is fragmented and incoherent. It needs to be streamlined, coordinated, and provided with case workers who can serve as "advocates" for individual children.

Finally, the report will recommend major changes in school organization and governance, including more school discretion for making decisions on local instructional processes, allocating and using resources, deciding on professional staff development and the role of the school principal.

The Effective Middle School

California's *Caught in the Middle* consolidates and clarifies several recent reports and studies on the middle school, including the Carnegie Corporation's *Turning Points*. *Caught in the Middle* proposed that effective middle schools should have 19 major characteristics in 5 areas:

1. *Curriculum and Instruction*
    - core curriculum
    - essential knowledge
    - thinking/communication
    - learning to learn
    - new instructional practice
2. *Student Potential*
    - equal access
    - student diversity focus
    - at-risk factors
    - physical/emotional development

3. *Organization and Culture*
    - school culture
    - extended curriculum
    - transition across schools
    - school structure
    - school scheduling
    - student assessment
4. *Teaching and Administration*
    - professional preparation
    - staff development
5. *Leadership and Partnership*
    - parent/community involvement
    - state of the art focus.

While all elements are important, several general comments can be made about this vision. First, it outlines a middle school vision, not a junior high school vision. Second, it suggests that middle schools implement the California curriculum frameworks as the core curriculum for all middle school students. Third, it strongly recommends a sharp focus on the physical and emotional developmental needs of early adolescents—a feature of the middle school concept but one often missing in schools for young adolescents. Fourth, the report recommends schools-within-a-school groupings of students to foster a sense of community both among students and between students and teachers of the core curriculum. Finally, the report emphasizes the importance of "extended curriculum" for students of this age—that is, community involvement and application of curriculum to real-world issues and problems.

One study of several of the most active schools attempting to implement this middle school vision found that while most were working to some degree on all elements, no school had fully implemented all elements, and indeed, most had implemented only a few elements well.[25] The study concluded that restructuring middle schools with a comprehensive and cohesive vision is an enormous task, challenging the capacities of even the "best" middle schools. These findings parallel those of Marsh and Odden as well as Cohen on implementing California's curriculum frameworks: there is strong and positive local response—the will is there—but substantial work must be done to fully implement both the frameworks and comprehensive visions of school excellence.

The Effective High School

The high school task force is having more difficulty reaching consensus on the characteristics of the effective high school for the twenty-first century. While several draft reports had been written by the end of 1990, agreement had not been reached on the major area of the overall structure of the high school. The issue was whether high schools should retain their current grade 9–12 organization, or whether a core curriculum should be proposed for grades 9 and 10 only, and more dramatic options adopted—including apprenticeship opportunities in the workforce—for grades 11 and 12 as suggested in the recent report of the National Center on Education and the Economy's Commission on the Skills of the American Workforce.[26] The report of this task force likely will recommend some of the most dramatic education reforms California—or any state, for that matter—has attempted for high schools in recent history.

There are several operational definitions for categorical programs. The one PACE uses excludes district revenue limits, teachers' retirement, instructional time incentives, necessary small schools, summer school, revenue limit equalization, and county office revenue. These are funding formulas and not essentially programs.

In *Conditions of Education in California 1988*, PACE undertook a lengthy description and analysis of California's categorical programs. Readers are referred back to that publication for a discussion of recent legislative action affecting categoricals, rethinking California's strategy, implications of recent federal research, and alternatives for improving California categoricals.

Figure 6.4 is illustrative of the variety and size of selected categorical programs. California currently has too many categorical programs, many of the numbers used to allocate funds are out of date, and the system needs an overhaul.

FIGURE 6.4 Selected Categoricals, 1990–91 School Year

Program	Amount (millions)
Special Education	$ 1,446.008
Desegregation	516.790
(Court Ordered $438.285, Voluntary $78.505)	
Child Care, Development, Preschool	358.481
Transportation (incl. Special Education)	323.765
SIP (School Improvement Program	315.276
Adult Education	290.140
EIA (Economic Impact Aid)	271.589
ROC/P (Regional Occupational Centers/Programs)	240.651
Supplemental Grants	182.268
Instructional Materials	128.885
Mentor Teachers	65.543
Child Nutrition	52.133
Year-Round School Incentives	36.461
Class Size Reduction (Budget Act Appropriation)	30.994
GATE (Gifted and Talented Education)	29.426
Staff Development	23.793
Deferred Maintenance	23.000
Miller-Unruh Reading	22.047
Educational Technology	13.741
Dropout/High Risk Youth Programs	11.885
Vocational Education	9.295
10th Grade Counseling	7.782
Administrator Training/Evaluation	5.372
Demo. Programs Reading/Math	4.628
Small District Bus Replacement	3.340
Beginning Teacher Support/Assessment	3.255
Agric. Vocational Education Incentive	3.179
Tobacco Use Prevention Program	2.500
Specialized Secondary School Programs	2.226
plus other programs under $2 million	
Total	**4,413,453 Billion**

DATA: Budget Act, 1990–91

The following figures compare California enrollments in selected curricula areas with enrollments in other states. The patterns differ somewhat by grade level as different states require subjects in somewhat varying sequences. However, there is a general pattern in mathematics and both life and physical sciences. California either matches or slightly misses the national percentages of secondary students enrolled in mathematics and advanced mathematics courses (see Figures 6.5 and 6.6). Sciences, both introductory and advanced, follow the same general pattern. California's secondary pupils are enrolled in generally the same proportion as students nationwide. The exception is chemistry, where California is lower in both first-year and advanced chemistry enrollments than nationwide figures (see Figures 6.7 and 6.9).

There is a dimension on which California deviates substantially from the national pattern. When compared with 29 other states, California is the fourth highest in the percent of its mathematics teachers who are not primarily licensed in this field. In other words, California depends heavily upon new math majors to teach mathematics. The average of the 30 states is 9 percent. California has 20 percent of its mathematics teachers "out of field."

FIGURE 6.5 Estimated Proportion of High School Graduates Taking Selected Mathematics Courses

STATE	Algebra 1 (Formal Math Level 1)	Algebra 2 (Formal Math Level 3)	Calculus (Formal Math Level 5)
ALABAMA	70%	46%	6%
ALASKA	—	—	—
ARIZONA	—	—	—
ARKANSAS	88	48	5
CALIFORNIA	92	44	9
COLORADO	—	—	—
CONNECTICUT	74	61	14
DELAWARE	73	43	17
DC	65	39	3
FLORIDA	78	42	9
GEORGIA	—	—	—
HAWAII	52	33	4
IDAHO	100	64	6
ILLINOIS	77	39	9
INDIANA	60	45	8
IOWA	92	50	9
KANSAS	66	47	9
KENTUCKY	81	54	6
LOUISIANA	100	64	4
MAINE	—	—	—
MARYLAND	94	51	13
MASSACHUSETTS	—	—	—
MICHIGAN	—	—	—
MINNESOTA	90	55	12
MISSISSIPPI	85	58	3
MISSOURI	95	58	8
MONTANA	94	65	6
NEBRASKA	75	54	6
NEVADA	90	32	5

FIGURE 6.5 Estimated Proportion of High School Graduates Taking Selected Mathematics Courses (continued)

STATE	Algebra 1 (Formal Math Level 1)	Algebra 2 (Formal Math Level 3)	Calculus (Formal Math Level 5)
NEW HAMPSHIRE	—	—	—
NEW JERSEY	—	—	—
NEW MEXICO	100	47	8
NEW YORK	69	46	12
NORTH CAROLINA	67	51	8
NORTH DAKOTA	95	64	3
OHIO	80	47	8
OKLAHOMA	97	60	8
OREGON	—	—	—
PENNSYLVANIA	88	57	16
RHODE ISLAND	—	—	—
SOUTH CAROLINA	69	55	7
SOUTH DAKOTA	—	—	—
TENNESSEE	79	54	4
TEXAS	82	54	5
UTAH	—	—	—
VERMONT	—	—	—
VIRGINIA	81	55	11
WASHINGTON	—	—	—
WEST VIRGINIA	—	—	—
WISCONSIN	85	36	9
WYOMING	73	29	8
U.S. TOTAL	**81%**	**49%**	**9%**

Note: Each state proportion is a statistical estimate of course taking of high school graduates based on course enrollments for one year (as of Fall 1989) and a weighted state student membership for grades 9–12. Algebra 1 percentages include grade 8.
U.S. Total = Proportion of all high school graduates estimated to take each course, including imputation for non-reporting states.

SOURCE: State Departments of Education, Data on Public Schools, Fall 1989; N. Carolina and Wisconsin, Fall 1988 Council of Chief State School Officers, State Education Assessment Center, Washington, D.C. 1990.

FIGURE 6.6 Students Taking Formal Mathematics (October 1989) as a Percent of Students in Grades 9–12

STATE	Total Students 9–12	Level 1 (Alg.1)	% 9–12	Level 2 (Geom.)	% 9–12	Level 3 (Alg. 2)	% 9–12	Level 4 (Trig.)	% 9–12	Level 5 (Calc.)	% 9–12	Level 5 (Adv. Place)	% 9–12
Alabama	197,613	34,289	17%	23,129	12%	21,531	11%	7,675	4%	1,208	1%	1,319	1%
Alaska	27,582	—	—	—	—	—	—	—	—	—	—	—	—
Arizona	155,919	—	—	—	—	—	—	—	—	—	—	—	—
Arkansas	122,798	26,997	22%	16,650	—	14,458	12%	6,166	5%	1,306	1%	—	—
California	1,269,871	276,017	22%	156,094	12%	133,024	10%	59,124	5%	22,720	2%	—	—
Colorado	153,095	—	—	—	—	—	—	—	—	—	—	—	—
Connecticut	123,168	19,068	15%	17,920	15%	17,689	14%	10,629	9%	2,408	2%	1,549	1%
Delaware	27,109	4,156	15%	3,151	12%	2,740	10%	1,967	7%	816	3%	260	1%
DC	18,949	3,248	17%	2,911	15%	1,862	10%	805	4%	136	1%	—	—
Florida	468,910	85,002	18%	59,377	13%	48,417	10%	18,011	4%	4,136	1%	4,298	1%
Georgia	298,109	—	—	—	—	—	—	—	—	—	—	—	—
Hawaii	42,828	5,188	12%	3,428	8%	3,423	8%	1,773	4%	19	0%	359	1%
Idaho	57,651	13,095	23%	10,495	18%	8,868	15%	1,924	3%	424	1%.	361	1%
Illinois	484,138	90,426	19%	72,852	15%	45,123	9%	32,603	7%	8,873	2%	1,072	2%
Indiana	275,914	44,148	16%	36,113	13%	29,885	11%	20,922	8%	5,044	2%	—	—
Iowa	132,797	31,409	24%	23,145	17%	20,354	15%	10,181	8%	3,180	2%	—	—
Kansas	114,515	19,559	17%	14,868	13%	13,095	11%	6,513	6%	1,680	1%	723	1%
Kentucky	175,035	32,970	19%	25,925	15%	22,839	13%	10,253	5%	736	.4%	1,806	1%
Louisiana	201,564	57,643	29%	42,958	21%	30,588	15%	12,123	6%	1,222	1%	447	.2%
Maine	60,656	—	—	—	—	—	—	—	—	—	—	—	—
Maryhland	185,535	34,898	19%	30,150	16%	22,837	12%	18,806	10%	2,758	1%	2,751	1%
Massachusetts	235,350	—	—	—	—	—	—	—	—	—	—	—	—

FIGURE 6.6 Students Taking Formal Mathematics (October 1989) as a Percent of Students in Grades 9–12 (continued).

STATE	Total Students 9–12	Level 1 (Alg.1)	% 9–12	Level 2 (Geom.)	% 9–12	Level 3 (Alg. 2)	% 9–12	Level 4 (Trig.)	% 9–12	Level 5 (Calc.)	% 9–12	Level 5 (Adv. Place)	% 9–12
Michigan	431,833	—	—	—	—	—	—	—	—	—	—	—	—
Minnesota	211,046	45,071	21%	34,538	16%	28,575	14%	15,999	8%	6,278	3%	—	—
Mississippi	126,948	27,190	21%	19,492	15%	17,668	14%	10,138	8%	359	.2%	430	.3%
Missouri	229,868	53,154	23%	33,343	15%	31,767	14%	13,581	6%	4,249	2%	—	—
Montana	40,736	9,789	24%	7,500	18%	6,416	16%	2,149	5%	537	1%	15	0%
Nebraska	76,693	14,868	19%	12,300	16%	9,979	13%	4,126	5%	1,204	2%	—	—
Nevada	49,357	10,548	22%	6,380	13%	3,866	8%	1,883	4%	464	1%	60	1%
New Hampshire	46,964	—	—	—	—	—	—	—	—	—	—	—	—
New Jersey	293,273	—	—	—	—	—	—	—	—	—	—	—	—
New Mexico	76,082	21,670	25%	11,397	15%	8,509	11%	1,403	2%	855	1%	398	1%
New York	708,794	136,408	19%	102,936	15%	78,536	11%	43,011	6%	4,390	1%	14,015	2%
North Carolina	310,919	56,840	18%	46,175	15%	37,861	12%	25,552	8%	5,406	2%	—	—
North Dakota	32,896	8,000	24%	5,767	18%	5,200	16%	3,394	10%	210	1%	—	—
Ohio	524,832	100,402	19%	75,117	14%	58,987	11%	45,480	9%	10,224	2%	—	—
Oklahoma	156,971	36,020	23%	19,649	13%	23,457	15%	6,630	4%	2,974	2%	—	—
Oregon	131,291	—	—	—	—	—	—	—	—	—	—	—	—
Pennsylvania	480,491	111,102	23%	71,341	15%	67,244	14%	63,464	13%	14,189	3%	4,274	1%
Rhode Island	36,862	—	—	—	—	—	—	—	—	—	—	—	—
South Carolina	172,466	27,508	15%	23,638	14%	22,132	13%	10,163	6%	663	.3%	1,777	1%
South Dakota	33,360	—	—	—	—	—	—	—	—	—	—	—	—
Tennessee	229,539	48,800	21%	31,773	14%	29,827	13%	—	—	2,120	1%	—	—

FIGURE 6.6 Students Taking Formal Mathematics (October 1989) as a Percent of Students in Grades 9–12 (continued).

STATE	Total Students 9–12	Level 1 (Alg.1)	% 9–12	Level 2 (Geom.)	% 9–12	Level 3 (Alg. 2)	% 9–12	Level 4 (Trig.)	% 9–12	Level 5 (Calc.)	% 9–12	Level 5 (Adv. Place)	% 9–12
Texas	886,269	202,249	23%	150,979	17%	111,541	13%	40,295	5%	9,629	1%	—	—
Utah	111,437	—	—	—	—	—	—	—	—	—	—	—	—
Vermont	23,656	—	—	—	—	—	—	—	—	—	—	—	—
Virginia	272,940	58,615	21%	43,012	15%	35,850	13%	23,229	9%	3,493	1%	3,802	1%
Washington	224,414	—	—	—	—	—	—	—	—	—	—	—	—
West Virginia	96,398	—	—	—	—	—	—	—	—	—	—	—	—
Wisconsin	230,394	50,164	22%	28,198	12%	20,338	9%	14,154	5%	5,232	2%	—	—
Wyoming	26,927	3,686	14%	2,750	10%	1,918	7%	1,631	6%	338	1%	183	7%
TOTAL (35 states)			**21%**		**14%**		**12%**		**6%**		**1%**		**5%**

Total = Sum of students taking the course in reporting states.

SOURCE: State Departments of Education, Data on Public Schools, Fall 1989; N. Carolina and Wisconsin, Fall 1988.
Council of Chief State School Officers, State Education Assessment Center, Washington, D.C. 1990.

FIGURE 6.7 Estimated Proportion of High School Graduates Taking Selected Science Courses

STATE	Biology 1st Year	Chemistry 1st Year	Physics 1st year
ALABAMA	100%	38%	21%
ALASKA	—	—	—
ARIZONA	—	—	—
ARKANSAS	100	33	13
CALIFORNIA	97	34	16
COLORADO	—	—	
CONNECTICUT	98	62	36
DELAWARE	100	48	19
DC	75	46	13
FLORIDA	100	44	19
GEORGIA	—	—	—
HAWAII	88	40	21
IDAHO	80	26	15
ILLINOIS	78	40	20
INDIANA	100	42	19
IOWA	100	57	27
KANSAS	100	45	17
KENTUCKY	98	45	14
LOUISIANA	90	50	21
MAINE	—	—	—
MARYLAND	100	61	27
MASSACHUSETTS	—	—	—
MICHIGAN	—	—	—
MINNESOTA	99	44	23
MISSISSIPPI	100	55	17
MISSOURI	86	41	16
MONTANA	100	48	24
NEBRASKA	100	46	21
NEVADA	65	33	13
NEW HAMPSHIRE	—	—	—
NEW JERSEY	—	—	—
NEW MEXICO	100	33	15

FIGURE 6.7 Estimated Proportion of High School Graduates Taking Selected Science Courses (continued)

STATE	Biology 1st Year	Chemistry 1st Year	Physics 1st year
NEW YORK	100	56	28
NORTH CAROLINA	100	47	15
NORTH DAKOTA	100	54	24
OHIO	98	49	20
OKLAHOMA	93	37	10
OREGON	—	—	—
PENNSYLVANIA	100	58	29
RHODE ISLAND	—	—	—
SOUTH CAROLINA	96	51	16
SOUTH DAKOTA	—	—	—
TENNESSEE	88	42	11
TEXAS	100	40	12
UTAH	—	—	—
VERMONT	—	—	—
VIRGINIA	99	57	23
WASHINGTON	—	—	—
WEST VIRGINIA	—	—	—
WISCONSIN	97	51	25
WYOMING	86	36	16
U.S. TOTAL	**99%**	**45%**	**20%**

Note: Each state proportion is a statistical estimate of course taking of high school graduates based on course enrollments for one year (as of Fall 1989) and a weighted state student membership for grades 9-12. (see text for explanation)
U.S. Total = Proportion of all high school graduates estimated to take each course, including imputation for non-reporting states.

SOURCE: State Departments of Education, Data on Public Schools, Fall 1989; N. Carolina and Wisconsin, Fall 1988.
Council of Chief State School Officers, State Education Assessment Center, Washington, D.C. 1990.

FIGURE 6.8 Student Course-taking by Grade: Algebra 1 and First-Year Biology (October 1989)

ALGEBRA 1 (Formal Math Level 1)

	Gr. 9-12	Grade 9	Grade 10	Grade 11	Grade 12
ALABAMA	34,289	74%	22%	3%	1%
CALIFORNIA	276,017	55	35	5	2
CONNECTICUT	19,068	70	20	7	3
FLORIDA	85,002	39	37	15	9
HAWAII	5,188	32	34	24	9
NORTH DAKOTA	8,000	75	19	5	2
WISCONSIN	50,164	50	30	14	4

BIOLOGY, First-Year

	Gr. 9-12	Grade 9	Grade 10	Grade 11	Grade 12
ALABAMA	53,059	28%	66%	5%	2%
CALIFORNIA	328,663	14	72	8	3
CONNECTICUT	30,984	21	66	8	5
FLORIDA	127,583	23	70	5	2
HAWAII	9,750	21	64	11	3
NORTH DAKOTA	8,729	2	90	5	1
WISCONSIN	56,566	20	70	7	3

SOURCE: State Departments of Education, Data on Public Schools, Fall 1989, Fall 1988. Council of Chief State School Officers, State Education Assessment Center, Washington, DC, 1990

FIGURE 6.9 **Students Taking Biology, Chemistry, and Physics (October 1989) as a Percent of Students in Grades 9–12**

	Total	BIOLOGY		CHEMISTRY		PHYSICS	
STATE	Students 9–12	1st Year	% 9–12	1st Year	% 9–12	1st Year	% 9–12
Alabama	197,613	53,059	27%	17,793	9%	9,388	5%
Alaska	27,582	—	—	—	—	—	—
Arizona	156,919	—	—	—	—	—	—
Arkansas	122,798	34,258	28%	9,925	8%	3,680	3%
California	1,269,871	328,663	26%	100,365	8%	42,057	3%
Colorado	153,098	—	—	—	—	—	—
Connecticut	123,168	30,984	25%	17,893	15%	10,494	9%
Delaware	27,109	7,273	27%	3,025	11%	1,156	4%
DC	18,949	4,086	22%	2,132	11%	518	3%
Florida	468,910	127,583	27%	49,696	11%	18,677	4%
Georgia	298,109	—	—	—	—	—	—
Hawaii	42,828	9,570	22%	4,160	10%	2,097	5%
Idaho	57,651	11,955	21%	3,494	6%	2,006	3%
Illinois	484,138	97,849	20%	45,926	9%	21,848	5%
Indiana	275,914	69,286	25%	28,067	10%	12,660	5%
Iowa	132,797	37,035	28%	18,329	14%	9,022	7%
Kansas	114,515	32,127	28%	12,424	11%	4,676	4%
Kentucky	175,035	43,691	25%	18,835	11%	5,671	3%
Louisiana	201,584	48,149	24%	23,380	12%	9,179	5%
Maine	60,858	—	—	—	—	—	—
Maryland	185,535	49,558	27%	26,585	14%	11,843	6%
Massachusetts	235,350	—	—	—	—	—	—
Michigan	431,833	—	—	—	—	—	—
Minnesota	211,046	51,939	25%	22,689	11%	12,302	5%
Mississippi	126,948	39,288	31%	18,182	13%	4,698	4%
Missouri	229,868	50,961	22%	22,425	10%	8,586	4%
Montana	40,736	10,303	25%	4,738	12%	2,338	6%
Nebraska	75,593	20,978	27%	8,418	11%	4,058	5%
Nevada	49,357	8,291	17%	3,996	8%	1,453	3%
New Hampsire	46,964	—	—	—	—	—	—
New Jersey	293,273	—	—	—	—	—	—

FIGURE 6.9 **Students Taking Biology, Chemistry, and Physics (October 1989) as a Percent of Students in Grades 9–12 (continued)**

STATE	Total Students 9–12	BIOLOGY 1st Year	BIOLOGY % 9–12	CHEMISTRY 1st Year	CHEMISTRY % 9–12	PHYSICS 1st Year	PHYSICS % 9–12
New Mexico	78,062	20,536	27%	5,827	8%	2,412	3%
New York	708,794	189,631	27%	97,025	14%	44,064	6%
North Carolina	310,919	81,618	26%	34,757	11%	10,649	3%
North Dakota	32,896	8,729	27%	4,363	13%	1,951	6%
Ohio	524,832	129,478	25%	62,007	12%	25,412	5%
Oklahoma	156,971	37,542	24%	14,417	9%	3,905	2%
Oregon	131,291	—	—	—	—	—	—
Pennsylvania	480,491	141,829	30%	65,610	14%	33,494	7%
Rhode Island	36,882	—	—	—	—	—	—
South Carolina	172,465	43,147	25%	20,132	12%	5,849	3%
South Dakota	33,365	—	—	—	—	—	—
Tennessee	229,539	52,876	23%	22,490	10%	5,934	3%
Texas	885,269	235,207	27%	81,301	9%	23,636	3%
Utah	111,437	—	—	—	—	—	—
Vermont	23,656	—	—	—	—	—	—
Virginia	272,940	89,449	25%	36,664	13%	14,915	5%
Washington	224,414	—	—	—	—	—	—
West Virginia	96,396	—	—	—	—	—	—
Wisconsin	230,394	56,566	25%	28,673	12%	13,826	5%
Wyoming	26,924	5,890	22%	2,379	9%	873	3%
TOTAL (35 STATES)			**26%**		**11%**		**4%**

Total = Sum of students taking the course in reporting states.

SOURCE: State Departments of Education, Data on Public Schools, Fall 1989; N. Carolina and Wisconsin, Fall 1988. Council of Chief State School Officers, State Education Assessment Center, Washington, D.C., 1990.

FIGURE 6.10 Students Taking Second Year/Advanced Courses (October 1989) as a Percent of Students in Grade 12

	Students	CALCULUS		BIOLOGY		CHEMISTRY		PHYSICS		EARTH SCIENCE
STATE	Grade 12	Adv. Place.	Reg.	Adv. Place.	Other Adv.	Adv. Place.	Other Adv.	Adv. Place.	Other Adv.	Advanced
Alabama	43,482	3%	3%	5%	14%	2%	—	1%	—	.2%
Alaska	6,402	—	—	—	—	—	—	—	—	—
Arizona	35,618	—	—	—	—	—	—	—	—	—
Arkansas	28,505	—	5%	—	—	—	—	—	—	—
California	243,023	—	9%	—	14%	—	3%	—	2%	3%
Colorado	34,799	—	—	—	—	—	—	—	—	—
Connecticut	29,186	5%	8%	2%	14%	1%	2%	1%	1%	9%
Delaware	6,314	4%	13%	2%	12%	1%	6%	1%	2%	2%
DC	3,778	—	4%	4%	.7%	3%	—	.7%	—	.4%
Florida	96,639	4%	4%	2%	47%	1%	.0%	1%	.3%	11%
Georgia	59,445	—	—	—	—	—	—	—	—	—
Hawaii	9,453	4%	.2%	.2%	5%	2%	0%	.7%	—	18%
Idaho	13,149	3%	3%	8%	9%	—	.5%	2%	.8%	14%
Illinois	110,514	1%	8%	—	14%	—	4%	—	.9%	2%
Indiana	65,063	—	8%	—	22%	—	9%	—	2%	5%
Iowa	33,795	—	9%	—	8%	—	—	—	—	—
Kansas	26,918	3%	6%	7%	14%	1%	2%	.4%	.3%	1%
Kentucky	40,186	4%	2%	3%	29%	1%	5%	.6%	.5%	—
Louisiana	41,604	1%	3%	1%	7%	.7%	1%	.5%	.1%	.5%
Maine	14,552	—	—	—	—	—	—	—	—	—

FIGURE 6.10 Students Taking Second Year/Advanced Courses (October 1989) as a Percent of Students in Grade 12 (continued)

STATE	Students Grade 12	CALCULUS Adv. Place.	CALCULUS Reg.	BIOLOGY Adv. Place.	BIOLOGY Other Adv.	CHEMISTRY Adv. Place.	CHEMISTRY Other Adv.	PHYSICS Adv. Place.	PHYSICS Other Adv.	EARTH SCIENCE Advanced
Maryland	43,302	6%	6%	5%	16%	3%	2%	2%	.4%	4%
Massachusetts	60,588	—	—	—	—	—	—	—	—	—
Michigan	97,713	—	—	—	—	—	—	—	—	—
Minnesota	53,724	—	12%	—	14%	—	8%	—	3%	2%
Mississippi	27,851	2%	1%	1%	76%	.4%	6%	.2%	.3%	1%
Missouri	52,420	—	8%	—	38%	—	9%	—	2%	9%
Montana	9,961	.2%	5%	.5%	17%	0%	3%	0%	2%	3%
Nebraska	19,099	—	6%	—	18%	—	—	—	—	—
Nevada	11,297	.5%	4%	6%	2%	2%	2%	.2%	—	—
New Hampshire	11,131	—	—	—	—	—	—	—	—	—
New Jersey	70,438	—	—	—	—	—	—	—	—	—
New Mexico	15,751	3%	6%	—	11%	—	—	—	—	4%
New York	148,836	9%	3%	4%	5%	2%	.6%	2%	.1%	3%
North Carolina	68,194	—	8%	1%	17%	—	3%	—	.3%	4%
North Dakota	8,032	—	3%	—	20%	—	4%	—		2%
Ohio	125,373	—	8%	—	11%	—	—	—	—	3%
Oklahoma	37,728	—	8%	—	3%	—	3%	—	.4%	1%
Oregon	30,018	—	—	—	—	—	—	—	—	—
Pennsylvania	115,400	4%	12%	—	15%	—	7%	—	2%	4%
Rhode Island	8,346	—	—	—	—	—	—	—	—	—

FIGURE 6.10 Students Taking Second Year/Advanced Courses (October 1989) as a Percent of Students in Grade 12 (continued)

STATE	Students Grade 12	CALCULUS Adv. Place.	CALCULUS Reg.	BIOLOGY Adv. Place.	BIOLOGY Other Adv.	CHEMISTRY Adv. Place.	CHEMISTRY Other Adv.	PHYSICS Adv. Place.	PHYSICS Other Adv.	EARTH SCIENCE Advanced
South Carolina	35,521	5%	2%	3%	9%	1%	3%	.2%	.2%	.4%
South Dakota	8,248	—	—	—	—	—	—	—	—	—
Tennessee	50,851	—	4%	2%	9%	.9%	1%	.5%	—	—
Texas	192,963	—	5%		12%	—	2%	—	1%	10%
Utah	24,971	—	—	—	—	—	—	—	—	—
Vermont	5,719	—	—	—	—	—	—	—	—	—
Virginia	63,501	8%	6%	4%	12%	2%	2%	.9%	.7%	4%
Washington	53,840	—	—	—	—	—	—	—	—	—
West Virginia	22,831	—	—	—	—	—	—	—	—	—
Wisconsin	56,022	—	9%	10%	12%	5%	4%	2%	2%	4%
Wyoming	6,281	3%	5%	8%	12%	1%	2%	0%	.4%	1%
TOTAL (35 STATES)		**2%**	**7%**	**2%**	**16%**	**1%**	**3%**	**.5%**	**1%**	**4%**

SOURCE: State Departments of Education, Data on Public Schools, Fall 1989; N. Carolina and Wisconsin, Fall 1988.
Council of Chief State School Officers, State Education Assessment Center, Washington, D.C., 1990.

[1] In 1988, the methodology for calculating the rate of enrollment was changed so the numbers in Figures 6.2 cannot be compared to the numbers in Figure 6.1. The change in methodology, however, did not alter the trend data, that enrollments in academic courses are rising across the board.

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Chapter 7

Student Assessment and Performance

Between kindergarten and high school graduation, California students encounter a large number and variety of tests.[1] These tests appraise individual pupil performance and evaluate school programs. They measure development of basic skills and assess subject-matter comprehension. They gauge physical fitness and readiness for college, and recognize outstanding scholastic achievement. Finally, the tests provide information to teachers that assists them in shaping instructional programs.

Testing, essentially, involves a comparison. These comparisons may be with previous performance, performance of other students, or with an outside criterion. When a comparison is made with previous performance of another group of students, the test is said to be "norm-referenced." If a student's performance is compared against some external criterion of significance or success, not against other students, then the test is said to be "criterion-referenced."

"Standardized" tests are designed to ensure that all test takers experience the same testing conditions, instructions, and time limits. This enhances comparability of test results, regardless of the time or location of their administration. Standardized tests can measure achievement, aptitude, interest, or personality. The largest portion of a district's testing program, however, is concerned with achievement. Achievement tests aid in determining students' educational needs and the relative success of teachers and schools in meeting these needs.

What does the constellation of tests in a school district look like and how are the results used? There are six major

HIGHLIGHTS

- Asked to select the most pressing public policy area from among education, crime, the environment, health care, and transportation, the largest number of survey respondents (32%) chose education as the issue of greatest concern.
- Lack of proper financial support ranked as the most significant problem facing schools.
- California's taxpayer revolt is not dead. Less than a third of survey respondents said they would vote to raise taxes for schools, and less than a fourth said they would vote to raise property taxes.
- Poor curriculum was rated a more serious problem than drugs and discipline.
- The largest number of survey respondents gave schools in their own community, and in the state as a whole, a grade of "C."
- Nearly a third of Californians (30%) believe schools have gotten worse in the last five years.
- More than half of those surveyed (54%) believe teachers' salaries are too low.
- Half of Californians believe elementary students are not required to work sufficiently hard; nearly two-thirds (64%) believe high school students do not work hard enough in school.

tests administered to students. The California Assessment Program (CAP) is a state-mandated test used to determine the effectiveness of school districts and schools in assisting students to master basic educational skills. The tests are administered in grades 3, 6, 8, and 12. The district distributes and collects testing materials, administers tests, and sends answer sheets to the state department of education for scoring and reporting.

The Comprehensive Test of Basic Skills (CTBS) is a norm-referenced standardized test designed to measure student achievement in reading, language, and mathematics. Skills tested by CTBS cover a wide span of curricula and instructional strategies; thus, the CTBS is compatible with many educational settings and practices. The CTBS is required for all students in grades 5, 7, 9, and 11. Schools with externally funded programs, like ECIA-Chapter 1, are also required to test students at each grade level being served. As a result, most children in grades K–12 take the CTBS annually in the spring.

Physical and health-related fitness tests are administered each year from March through May to students in grades 5, 7, and 9 who are physically able to complete the tasks. These tests assess health-related fitness, such as body composition and structure, cardio-respiratory functions, musculoskeletal tasks, neuromuscular tasks, and cognition.

In addition to CAP, CTBS, and physical fitness tests, three College Board examinations are offered. First, the Preliminary Scholastic Aptitude Test/National Merit Scholarship Qualifying Test (PSAT/NMSQT) measures verbal and mathematical reasoning abilities deemed important for success in college. These scores also are used to estimate future scores on the Scholastic Aptitude Test (SAT), to qualify students for scholarships and enrichment programs, and to facilitate the flow of information regarding postsecondary educational and financial opportunities. Second, the SAT, like the PSAT, is viewed as a predictor of readiness for college. The SAT measures student proficiency in solving word and number problems and stresses higher-order reasoning rather than basic comprehension and computation. Third, the Advanced Placement Testing Program enables high school students to obtain college credit and advanced placement by passing special exams in academic content areas.

In addition, the Golden State Examination (GSE), established by Senate Bill 813—the Hughes-Hart Educational Reform Act of 1983—identifies and recognizes students who achieve a statewide standard of excellence in selected academic subjects. Student participation is voluntary.

Finally, selected norm-referenced tests are available to individual schools and teachers to assist them in assessing student achievement, thus aiding them to adapt instructional practices for individual students.

Results from these tests are utilized by different audiences for various purposes. Principally, test results provide: (1) the superintendent and school board members with a general assessment of achievement in basic skills; (2) principals with an assessment of their school's achievement in basic skills and information about strengths and weaknesses that may require further analysis; (3) teachers with an assessment of individual student achievement in basic skills, which they can then use to improve instruction and discuss classroom performance, attitudes, and work habits with students and parents; (4) counselors with achievement test results which they can combine with classroom achievement data, teacher recommendations, and other information to use in career placement and academic program planning; (5) the district's educational services division with information and concept cluster analyses, both to aid in strengthening identified basic skills weaknesses districtwide and in working with teachers and schools within the district; (6) the state department of education with required testing information needed to evaluate externally funded state and federal programs; and (7) students and parents with achievement test results which enable and encourage an awareness of student academic progress.

District and state tests complement each other to the extent that district assessments focus on individual pupil progress and state assessments concentrate on broad program evaluation. We now describe the state's assessment instruments and review California students' performance on state and national tests.

STATEWIDE EDUCATIONAL TESTING IN CALIFORNIA

The California Assessment Program (CAP) has been the largest state testing program in the nation for over two decades[2] and continues to be the chief vehicle for evaluating the state's public schools.[3] CAP was launched in 1972 in response to legislation that focused state assessments on the effectiveness of educational programs and schools rather than the relative progress of individual students.

Current state law requires annual testing of all students in grades 3, 6, 8, 10, and 12 in the basic skills of reading, written expression, and mathematics, and in the content areas of science, history, higher mathematics, and literature. Approximately 300,000 students are tested annually in California at each of these grade levels.

CAP's purpose is to evaluate schools and programs rather than individual students. It does this by employing a research technique known as "matrix sampling," in which individual students sit only for a small portion of a much larger test. These tests provide a powerful and reliable indication of the breadth and depth of student learning with a minimum of testing time. By utilizing matrix sampling, the scope of the assessment can be nearly ten times as broad as a conventional test and the results for a school at least twice as reliable.[4]

CAP results are reported in scaled scores, which weight questions according to their level of difficulty and their power in measuring a given achievement concept or skill. Results are presented on an equal interval scale ranging from 100 to 400, so score differences between 100 and 120 are the same as the difference between 300 and 320.[5] CAP's scaling system enables schools and districts to follow their progress over time. CAP reports also provide a variety of ranks and profiles that indicate the level at which a particular school is performing, how well a cohort of students is performing relative to cohorts of earlier years, how well a school compares to all other schools in the state, and how well a school compares to other schools with similar types of students. Comparing schools with like student populations is important because students' general readiness, including the degree to which they are familiar with the English language, is a principal factor in predicting school success. This type of information is crucial to forming valid judgments regarding the quality of a school program. Without it, some schools that have performed productively with relatively unprepared students would be judged too harshly, and other schools would receive more credit than they deserve for the achievement of students whose home backgrounds have prepared them to do well in virtually any instructional program.[6]

CAP has an annual budget of $10.3 million. This amounts to .055 of one percent of the $25 billion spent on K–12 education. The funds are expended as follows: state staff and operating expenses for test development, contract maintenance, and state reporting—$3.7 million; contracted services: test printing, scoring, and reporting for grades 3, 6, 8, and 12—$3.0 million; test printing, scoring, and reporting for direct writing for grades 8 and 12—$2 million; test development to align to state curriculum—$1.6 million.

THE ROLE OF ASSESSMENT IN THE REFORM AGENDA

In 1983, California initiated a series of educational reform activities. Statewide graduation requirements were mandated,[7] for example, and a school-level accountability program was launched, including state and local targets for performance on "quality indicators." In addition, a multiple-year curriculum reform process was undertaken, developing model curriculum standards, revising state curriculum frameworks, adopting new standards for texts, revamping state achievement tests, strengthening teacher preparation and development, and enhancing school-site and district leadership.[8] Curriculum reform is viewed by state officials as a long-term effort to gain leverage over content and instruction, the central features of learning.[9]

According to state department of education officials, many districts have strengthened their testing programs since the advent of reform activities in 1983, and several pilot efforts are underway to consolidate testing for local and state reporting. The California Assessment Program (CAP) has been extended to additional grade levels and content areas.

Statewide assessment has been altered to support implementation of the state curriculum. CAP added a high-level test at grade 8; a new, more rigorous test at grade 12; direct writing assessments at grades 8 and 12; tests of history-social science and science at grade 8; and performance tests of health-related physical fitness at grades 5, 7, and 9. In addition, CAP tests in English-language arts and mathematics are being refocused on critical outcomes in these areas. Work in progress includes new integrated reading-writing tests and mathematics tests for all current CAP grade levels, as well as grade 10, and history-social science and science tests for grades 6 and 12.[10] CAP has used these changes to begin introducing more performance-based assessments that support curriculum reform by providing educators, the public, and the state legislature with data that indicate more directly what students know, how well they can think, and what they can do.[11]

The Golden State Exam (GSE) is another reform-initiated testing initiative. The GSE is a voluntary, end-of-course examination that appraises achievement in academic courses required for higher education. It encompasses increasing numbers of students each year—more than 141,000 in 1989. The program is expanding from math to additional subject areas. Tests in history and economics have been developed with funding from the San Diego County Office of Education, and tests in biology and chemistry are now being developed with support from the Milken Foundation.[12]

English-Language Arts

In 1986 the legislature funded development of a direct writing assessment, which was implemented in grade 8 in 1987. According to state officials, the program has been acclaimed nationally as a major improvement in assessment and has served as a powerful means for improving writing instruction across the state. Teachers report that test results are helpful to their instruction and that participating in the process of grading student papers enhances professional development. The writing assessment was extended to grade 12 in 1988 and was slated for implementation in the elementary grades in 1992.

At both the 8th and 12th grade levels, direct writing assessments allow students to write from personal experience, from information acquired in all subjects in the curriculum, and from literature. There are eight types of writing required of 8th graders: (1) autobiographical incident—narration of a specific occurrence in a student's life, presenting it vividly and stating or implying its significance; (2) evaluation—judgment of the worth of an item (such as a book, movie, or consumer product) supported with reasons and evidence; (3) problem solution—analysis of a specific problem, including proposals and arguments for a solution; (4) report of information—objective presentation of data collected from observations and research to explain a phenomenon or concept; (5) firsthand biography—presentation of a person the writer knows well, including the significance of that person in the writer's life; (6) story—narration of a fictional story with a plot, characters, and scene; (7) observational writing—recreation of a writer's perceptions of an experience (writing as observer rather than participant); and (8) speculation about causes or effects—conjecture about the causes or results of an event, trend, or phenomenon.[13]

Like their 8th grade counterparts, 12th graders also must write essays covering autobiographical incident, evaluation, report of information, observation, and speculation about causes and effects. Seniors' writing requirements differ from those of 8th graders, however, in that they also include (1) interpretation—interpretation of a text or data supported by reasons and evidence; (2) reflective essay—exploration of a personal reflection and ideas arising from a particular occasion (something observed, a book read, a movie seen); and (3) controversial issue—defense of a stand on a controversial issue, supported with logical reasoning and evidence.[14]

Scoring of the writing assessment is based on a scale of 1–6, with 6 being the highest. The system generates three kinds of scores for each type of writing. Scores are assigned for (1) rhetorical effectiveness—the special thinking and writing requirements for each type of writing; (2) general feature—a special feature of the type of writing being assessed, such as coherence, elaboration, or style; and (3) conventions—usage, mechanics, and spelling.[15]

According to a report by the Center for the Study of Writing at the University of California at Berkeley, California's direct assessment of student writing is successfully influencing the English curriculum in the state's middle and junior high schools.[16] The Center surveyed 600 teachers in California junior high or middle schools regarding their knowledge of the writing assessment and how it had influenced their teaching. Over 90 percent of responding teachers reported that they had made changes in their teaching of writing as a result of the CAP writing assessment. Teachers underscored the importance of the writing assessment for improving students' chances for learning in high school, for raising teachers' expectations, and for strengthening the English curriculum in their schools. Among the self-reported changes in teaching were the following:

- 91 percent reported making major (46%) or minor (45%) changes in the way they taught writing during the year, including either the amount of writing assigned, the variety of writing assigned, or other changes.
- 78 percent reported assigning "a little more" (33%) or "quite a bit more" (45%) writing than before.
- 94 percent reported assigning "a few more" (47%) or "many more" (47%) different kinds of writing.
- 90 percent indicated that CAP was the only (5%), an important (59%), or a minor (26%) reason for the change.
- 92 percent reported that the CAP writing assessment will increase teachers' expectations for students' writing achievement at their school considerably (42%) or somewhat (50%).

Teachers speculated that as a result of the writing requirement in CAP, students' chances for improved learning and achievement would be improved in high school (98%), that teachers' expectations for students' writing will increase (93%), that their school's English curriculum will be strengthened (92%), and that they believe it is essential that English teachers enable students to become aware of the differences among types of writing (91%).[17]

Teachers in the study also agreed that California students will write more as a result of the CAP writing assessment (96%), that English teachers themselves will learn more about the nature of written discourse (93%), that CAP will help implement the new California English-Language Arts framework (95%), and that this test is a significant improvement over multiple-choice tests that really cannot measure writing skills (97%).[18]

Finally, California teachers reported that they participated in at least one workshop involving materials from the CAP writing assessment (75%), and that they discussed their schools' results (71%), ways to use the CAP writing guides (73%), the CAP scoring guides (48%), and the CAP sample essays (53%).[19]

Mathematics

CAP is developing new modes of assessment in mathematics which include free response questions, investigations, and portfolios. Free response questions are complex, and a successful response involves more than a single correct answer; students construct their own assumptions and respond correctly by providing appropriate reasons for their conclusions. Mathematical investigations are 40-60 minute, complex problem-solving projects given to students individually or in small groups. Students are asked to plan and complete the investigations and to periodically answer questions that demonstrate their understanding of mathematical concepts and the thinking that underlies their choice of action. Portfolios are of most value in the classroom but can be assessed on a sampling basis statewide. The portfolios assess student attainments over a period of time and are being designed to include components that ordinarily are difficult to assess using other methods.[20]

The open-ended questions in math are designed to stimulate student thinking about mathematical problems and to enable students to communicate their mathematical thinking and solutions to others. Questions are designed to stimulate higher-order thinking processes—making assumptions, seeing connections among strands of math, explaining, using data organization and graphing, and understanding mathematical procedures. Open-ended questions, which were included in the grade 12 CAP test in 1987–88, are designed to align assessment with principles from the new state curriculum frameworks in the following ways: encourage students to think for themselves and to express mathematical ideas, construct their own responses instead of choosing a single answer, demonstrate the depth of their understanding of a problem, and solve problems in many ways. Open-ended questions also model good instruction by encouraging diverse responses to classroom questioning and discussion. They also move curriculum away from bits and pieces of information toward the application of math tools to situations.[21]

A random sample of 2,500 student responses were scored after the 1987–88 pilot test of open-ended math responses. Five open-ended responses, denoted in Figure 7.1 as A–E, were evaluated. Student papers were categorized as "demonstrated competence," "satisfactory," or "inadequate response." Of the approximately 500 papers reviewed for each problem, Figure 7.1 indicates the percentages of student responses in each category. The reviewers surmised that the inadequate responses of a large percentage of students occurred primarily because students were not accustomed to writing about mathematics.[22]

Science

In California's new science assessments, students are required to demonstrate knowledge of science concepts and processes and problem-solving ability as well as to undertake practiced performance tasks. These performance tasks were field tested in 1990 and are scheduled for implementation at the elementary and secondary levels in 1992. Approximately 1,000 schools and 50,000 6th graders participated in the field tests, which asked students to observe, classify, sort, detect patterns, infer, formulate hypotheses, and interpret results. The tasks challenged students to integrate their manipulative and thinking skills with their knowledge of science content. These performance assessments complement and enhance the 6th grade open-ended questions and conceptual/thematic multiple-choice items that also were field tested in spring 1990.[23]

The performance tasks required students: (1) to build a circuit out of the materials provided, to predict the conductivity of various materials, to test their conductivity, and to record the results; (2) to create a classification system for a collection of leaves, and to explain the adjustments necessary when a "mystery leaf" is introduced into the group; (3) to perform a number of tests on a collection of rocks, record the test results, and classify them based on information provided; (4) to use the limited equipment to estimate and measure a particular volume of water; and (5) to perform a chemical test on samples of lake water to determine why fish are dying. In each of these activities, the students were asked to think beyond the immoderate hands-on activity and to apply what they learned to the understanding of complex natural phenomena.[24]

In spring 1989, open-ended science questions were administered to 8,000 6th graders. These questions engaged students in creating hypotheses, designing scientific investigations, and writing about social and ethical issues in science. Students were to respond to the questions in one of three ways: by interpreting and entering data on a chart; by drawing a picture to explain an answer; or by writing a short, analytical paragraph. Each open-ended question asked students to compose a written response requiring 10 to 15 minutes.[25]

History-Social Science

CAP is adding assessments of student achievement in history-social science to its tests for grades 6 and 12 and revising the grade 8 test. These tests will mark the first major step towards assessments that are fully aligned to the curriculum envisioned in the history-social science framework. They are designed to allow students to demonstrate their breadth of learning as well as their ability to clarify issues, recognize relationships, determine causes and effects, interpret evidence, and argue for a position. Rather than emphasize isolated facts, these new CAP tests will assess a deeper, more thorough study of eras, events, and original documents in their full social and cultural contexts. Assessment modes under consideration include written tests, portfolios of student work, and integrated performance tasks.[26]

A preliminary edition of the history-social science portions of CAP was administered to 6th graders in May and June 1990. It included 20 multiple-choice questions and one open-ended question for each student, covering the curriculum for grades 4-6. Five domains or tools of history-social science thinking and writing were formulated as preliminary report-

FIGURE 7.1 **Summary of Student Performance on Open-ended Questions in Math, 1987–88 Pilot**

Problem	Demonstrated competence (percentage)	Satisfactory (percentage)	Inadequate (percentage)	No response (percentage)
A	15	24	59	2
B	14	21	58	7
C	20	12	65	3
D	15	27	52	6
E	9	41	32	18

SOURCE: California State Department of Education.

ing categories for students' short essay responses to open-ended questions. These included: (1) interprets historical and social science data in terms of meaning and significance, (2) relates events both past and present, (3) analyzes cause and effect while understanding continuity and change, (4) defends own point of view in a thoughtful and rational manner, and (5) demonstrates historical empathy by understanding the participants, the situation, and the historical era or time.[27]

The ultimate composition of the CAP grade 6 history-social science exam will include a number of components: multiple-choice questions, open-ended or essay questions, small group and classroom performance-based assessment, and portfolios. Multiple choice questions remain because they are an efficient way to test background knowledge of history-social science. Open-ended questions will be linked to CAP's direct writing assessment. Small group and classroom performance-based assessment is in the early stages of development and might include written, group process, and kinesthetic examination components. A model might be as follows. Students individually take a pretest, consisting of multiple-choice and open-ended questions. In small groups and as a classroom, students read, manipulate, discuss, and debate prepared test materials, including brief passages from primary sources, graphics, maps, political cartoons, and historical artifacts. The group process is evaluated by adult observers and the students themselves. Students then produce a culminating product, primarily essays but also diagrams and artifacts such as three-dimensional maps. Portfolios will provide an opportunity for teachers, parents, and students to monitor progress during the school year. The portfolios will be designed to help students perceive their own growth, examine their thinking processes, internalize criteria for excellence, and demonstrate knowledge and understanding through a variety of culminating products.[28]

STUDENT PERFORMANCE ON STATE AND NATIONAL TESTS

The California State Department of Education recently summarized student performance gains in the following manner. "From 1983 to 1988, 12th grade test scores improved one whole grade equivalent in mathematics and one-half grade in reading. . . . From 1986 to 1989, 8th graders have improved an average of one-half grade for all subjects. These results mean that California's 7th and 8th graders grew two and one-half years versus the normal two years—a 25% increase in performance or 8% per year."[29]

The state's assessment of student performance proceeds to indicate that California 8th graders closed the gap in achievement with their Japanese counterparts by 25 percent in three years. In addition, 50,000 additional seniors (20%) now take a third year of science, over 40,000 more take a fourth year of English and a similar number take a third year of math. The state report boasted that the pool of students scoring above 450 on the verbal portion of the SAT and those scoring above 500 on the math portion grew 28 percent in verbal and 32 percent in math from 1983 to 1988, or better than 5 percent per year. Fifty thousand seniors, out of a statewide total of 250,000 now reach these levels. In addition, the number of Advanced Placement courses taken and passed during the past five years has more than doubled to 52,000 out of a class of 250,000 seniors. And the number of students who complete the University of California's A-F course requirements for college admission has grown. Finally, the dropout rate has declined 15 percent in the past three years, from 26 percent to 22 percent."[30]

Student Performance on the California Assessment Program Tests

PACE's independent analysis of California achievement data indicates that at all grade levels and in all subject areas, California Assessment Program (CAP) scores were higher in 1990 than they were in 1983, when California initiated a series of education reform activities. Gains are modest, ranging from a low of 0.4 percent in 12th grade reading to a high of 8.4 percent in 8th grade mathematics. The average CAP score increase across all grade levels and subject areas during the seven-year period between 1983 and 1990 is 4.4 percent (Figure 7.2).

In addition, between 1989 and 1990, the two most recent years for which scores are available, 8th and 12th grade CAP scores increased in all subject areas. The 8th grade increases ranged from 0.4 percent in reading and history-social science to 0.7 percent in mathematics and science.[31] At the 12th grade level, reading scores increased 1.2 percent and math scores increased 1.6 percent.[32] Math scores at the 3rd and 6th grade levels also increased between 1989 and 1990. In contrast, 3rd and 6th grade reading and written language scores declined somewhat. These declines amounted to 0.4 percent in 3rd grade written expression and 6th grade reading and written expression (Figure 7.2).

Moreover, the 1990 CAP scores are the highest they have ever been for 6th grade mathematics and for all subjects at the 8th and 12th grade levels. The pattern is different, however, for 3rd grade scores in all subjects and for 6th grade scores in reading and written language. Student performance seemed to improve and then crest. It has declined recently. The performance of California students at these levels was lower in 1990 than at some previous point in the seven-year period starting in 1983. The decline amounts to between 0.7 percent in 3rd grade math and 3.5 percent in 3rd grade written language (Figure 7.2). Overall one can see improving performance across subject areas at the upper grade levels, and declining performance in the 3rd grade. More detail about these changes is provided in the discussion of grade-level performance below.

3rd Grade CAP Scores

Third grade CAP scores increased between 1980 and 1983 in all subject areas: by 13 points or 5.2 percent in reading, 16 points, or 6.4 percent, in written language, and 17 points, or 6.8 percent, in mathematics.[33] Score increases continued in all subject areas through 1987. In 1988, reading scores leveled, then declined in 1989 and again in 1990, falling seven points or 2.5 percent from their 1987 high. Written language scores also peaked in 1987, falling in each subsequent year. The 1990 written language scores are 10 points or 3.5 percent below their 1987 zenith. Math scores exhibit a similar pattern: peaking in 1987 and declining through 1989, by seven points or 2.5 percent. In 1990, however, 3rd grade math scores turned back up, increasing 5 points or 1.8 percent. Overall, 3rd grade CAP scores increased from 1980 to 1987, then declined somewhat through 1990; the pattern is similar for each subject area, and the scores across subject areas fall within a narrow band (Figure 7.3).

6th Grade CAP Scores

Sixth grade CAP scores increased between 1980 and 1983 in written language and mathematics: rising 9 points, or 3.6 percent, in written language and 10 points, or 4.0 percent, in math. Reading scores exhibit a slightly different pattern: increasing four points, or 1.6 percent, between 1980 and 1982,

FIGURE 7.2 Average CAP Scores by Grade Level and Subject Area, 1983–1990

Grade Level and Content Area	Average Test Score, by Year								% change 1983-90	% change 1989-90	% change highest score, 1990
	1983	1984	1985	1986	1987	1988	1989	1990			
Grade 3											
Reading	263	268	274	280	282	282	277	275	+4.6	-0.7	-2.5
Written Language	266	272	279	285	287	284	278	277	+4.1	-0.4	-3.5
Mathematics	267	274	278	283	285	281	278	283	+6.0	+1.8	-0.7
Grade 6											
Reading	253	249	253	260	260	265	262	261	+3.2	-0.4	-1.5
Written Language	259	260	265	271	271	273	269	268	+3.5	-0.4	-1.8
Mathematics	260	261	264	268	268	270	267	270	+3.8	+1.1	0
Grade 8											
Reading	—	250	240	243	247	252	256	257	+2.8	+0.4	0
Written Language	—	250	246	248	254	263	—	—	—	—	—
Mathematics	—	250	251	253	259	264	269	271	+8.4	+0.7	0
History/Social Sci.	—	—	250	243	247	253	259	260	+4.0*	+0.4	0
Science	—	—	—	250	256	263	267	269	+7.6†	+0.7	0
Grade 12											
Reading	63.1	62.2	62.9	62.7	63.6	250	248	251	+0.4**	+1.2	0**
Written Language	63.0	62.2	63.2	63.4	64.1	—	250	—	—	—	—
Spelling	69.5	69.4	69.7	70.1	70.6	—	—	—	—	—	—
Mathematics	67.7	67.4	68.3	68.7	70.0	250	256	260	+4.0	+1.6	0**

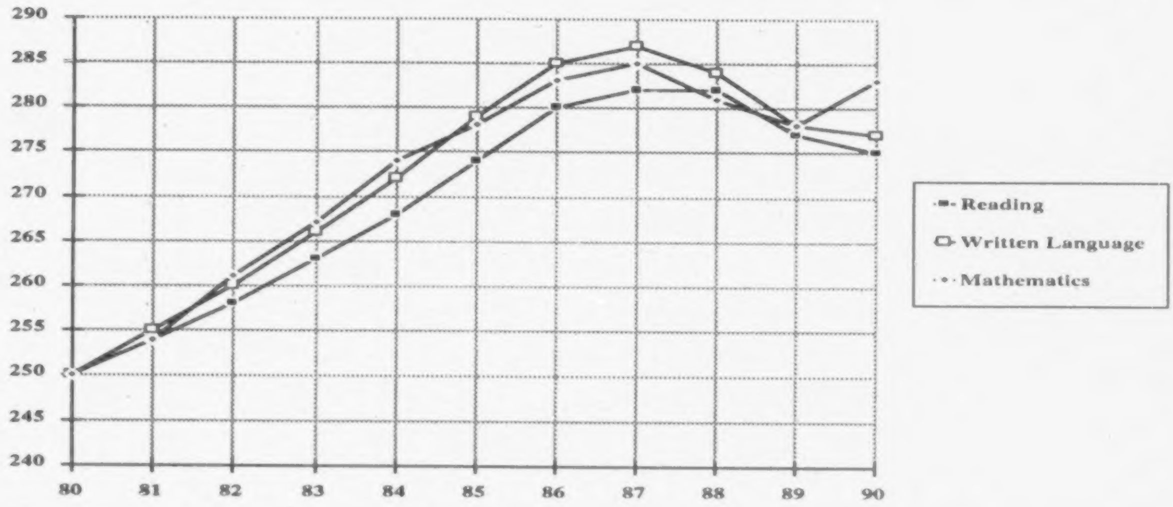
* 1985-1990
† 1986-1990
** 1988-1990

Note: The scores for grades 3,6, and 8, and the scores for grade 12 after 1987, are reported in scaled score units, which weight questions according to their level of difficulty and power in measuring a given achievement concept or skill. Before 1988, 12th grade scores represented the percentage of questions answered correctly.

SOURCE: California State Department of Education

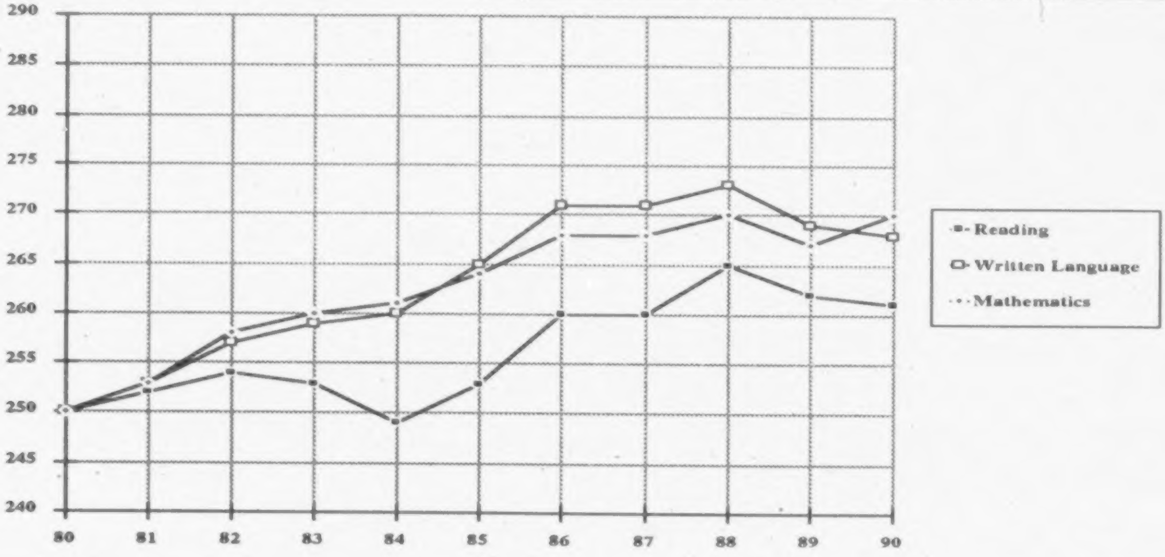
then declining one point, or 0.4 percent, in 1983. Reading scores dipped again in 1984, then increased through 1988. They declined again in 1989 and 1990, falling 4 points or 1.5 percent from their 1988 peak. Written language scores also peaked in 1988, falling in 1989 and 1990 by a total of 5 points, or 1.8 percent. Similarly, sixth grade math scores increased through 1988, dipped in 1989, but turned upward in 1990 to regain their high point of the entire period (Figure 7.4).

FIGURE 7.3 Reading, Writing, and Math Scores for Grade 3, 1980–1990



SOURCE: California State Department of Education

FIGURE 7.4 Reading, Writing, and Math Scores for Grade 6, 1980–1990



SOURCE: California State Department of Education

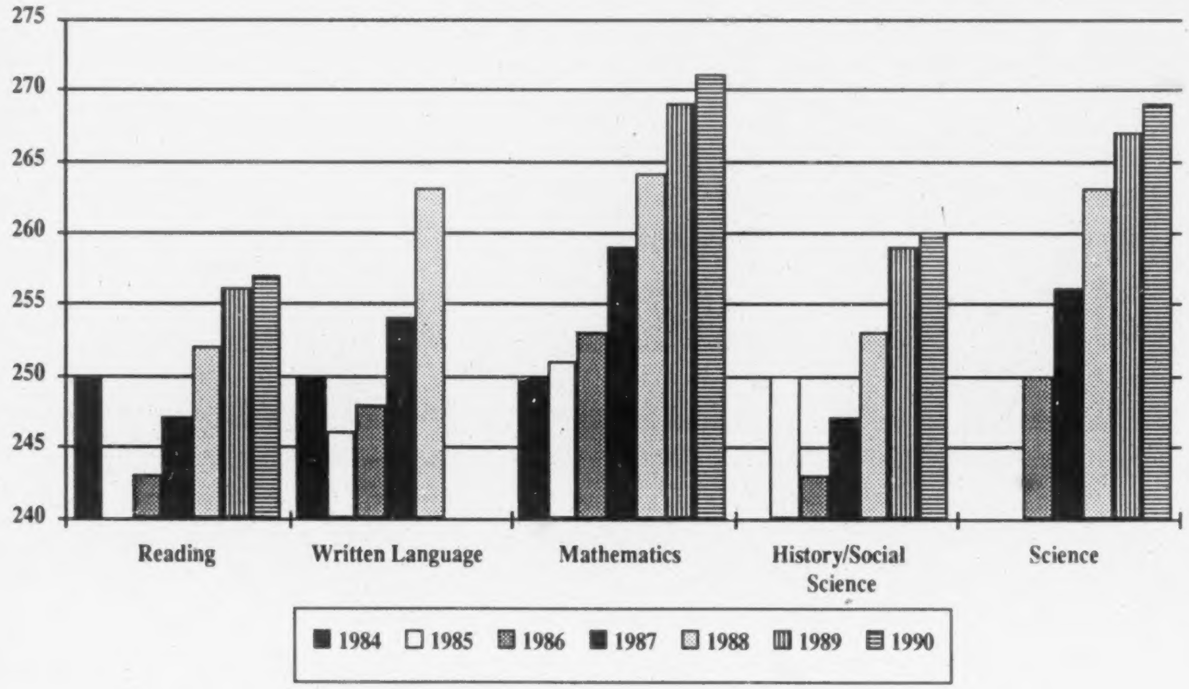
8th Grade CAP Scores

Eighth grade CAP tests in reading, written expression, and mathematics were initiated in 1984. History/social science and science tests were added in 1985 and 1986, respectively. Reading scores during this period fell initially, in 1985, then increased steadily to reach their highest level ever in 1990, rising 7 points, or 2.8 percent, from their 1984 score, but 17 points, or 7.1 percent, from their low point in 1985. Written language scores also dipped initially, then climbed steadily through 1988, gaining 13 points, or 5.2 percent. The written language test was not administered in 1989 or 1990. Math scores have increased each year from 1984 through 1990, rising 21 points, or 8.4 percent. Like reading and written language, 8th grade history/social science scores fell initially, then climbed upward reaching their high point in 1990, gaining 10 points, or 4.0 percent, over the period. Likewise, 8th grade math scores reached their high point in 1990, posting gains of 19 points, or 7.6 percent, over the four-year period, 1986–1990 (Figure 7.5).

12th Grade CAP Scores

Twelfth grade CAP scores are not readily comparable across the period 1983–1990 because the scoring system changed in 1988 from a "percentage correct" system to a "scaled score" system. Patterns within each scoring system can be ascertained, however. Between 1983 and 1987, 12th grade reading scores fell initially, increased in 1985, fell again in 1986, then rose in

FIGURE 7.5 Reading, Writing, Math, History/Social Science, and Science CAP Scores for Grade 8, 1984–1990*



*History/social science and science tests were initiated in 1985 and 1986, respectively.

SOURCE: California State Department of Education

1987 to reach their highest point during the period, though the gain was modest: 0.8 percent. After the scoring system was changed in 1988, reading scores dipped in 1989, then rebounded in 1990 to end the period one point, or 0.4 percent, higher than the initial 1988 score.

Written language scores also declined in 1984, then climbed through 1987, rising 1.7 percent over the period. The test was not administered in 1988 or 1990. Testing in the intervening year, 1989, was scored differently from past tests, leaving no ready basis for comparison.

Spelling scores followed roughly the same pattern as reading and written language, dropping slightly in 1984, then rising through 1987, when the test was discontinued. The 1987 spelling scores were 1.6 percent higher than scores in 1983.

Similarly, math scores dipped in 1984, then rose through 1987, increasing 3.4 percent over the period. Math scores were rescaled in 1988, then rose in 1989 and 1990, gaining 10 points, or 4.0 percent, in two years (Figure 7.6).

Performance of California Students by Ethnicity

The general trend in California Assessment Program (CAP) results by ethnicity during the period 1987 to 1990 (when ethnic data were available) reveals a substantial gap between the average scores of white students and those of African-American and Hispanic students in reading and math. In 1990, for example, white students scored on average 79 points higher than black students, and 77 points higher than Hispanic students, in reading across the grade levels. (The average reading score for all students across grade levels was 261. Scores for white students are higher than the state average in all subjects and at every grade level.) For blacks, the gap is higher in mathematics (82 points); for Hispanics, it is lower (68). Generally, these gaps increase as students move through school, that is, from grades 3 to 12, and the gap has widened over time (Figure 7.7).

Across grade levels, Asian students score on average 24 points lower than whites in reading and 17 points higher than whites in mathematics. The trend across time and grade levels, however, is mixed. In reading, the gap narrows from 21 points in the 3rd grade to 9 points in the 8th grade; it then opens to 52 points in the 12th grade. In math, Asians do progressively better than white students from 3rd to 8th grade, outscoring whites by 3, 17, and 24 points, then the gap narrows somewhat in the 12th grade, from 24 to 22 points. Over time, scores for whites and Asians have moved closer together at the 3rd and 8th grade levels and further apart at the 6th and 12th grade levels (Figure 7.7).

At the 8th grade, on tests of history/social science and

FIGURE 7.6 CAP Reading, Writing, Spelling, and Math Scores for Grade 12, 1980 Through 1990

Grade level and content are	Average test score, by year										
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Grade 12											
Reading	63.1	63.4	63.2	63.1	62.2	62.9	62.7	63.6	250	248	251
Written Language	62.4	63.1	63.2	63.0	62.6	63.2	63.4	64.1	—	250	—
Spelling	68.8	69.0	69.5	69.5	69.4	69.7	70.1	70.6	—	—	—
Mathematics	66.8	68.0	67.7	67.7	67.4	68.3	68.7	70.0	250	256	260

Note: Scoring system was changed for 1987–88 administration.

SOURCE: California State Department of Education.

FIGURE 7.7 Gap in CAP Scaled Scores and Percentage Change in Gap Over Time

	Reading			Written Lang.			Math			Hist./ Soc. Sci.			Science		
	1987	1990	% change	1987	1990	% change	1987	1990	% change	1987	1990	% change	1987	1990	% change
Grade 3															
White-Black	71	70	-1.4†	62	62	0	69	73	+5.8	—	—	—	—	—	—
White-Hisp.	63	65	+3.2††	59	60	+1.7	51	54	+5.9	—	—	—	—	—	—
White-Asian	20	21	+5.0	23	22	-4.3	-4	-3	-25.0	—	—	—	—	—	—
Grade 6															
White-Black	65	66	+1.5	55	57	+3.6	67	71	+6.0	—	—	—	—	—	—
White-Hisp.	66	64	-3.0	58	58	0	57	60	+5.3	—	—	—	—	—	—
White-Asian	16	12	-25.0	17	13	-23.5	-16	-17	+6.3	—	—	—	—	—	—
Grade 8															
White-Black	79	87	+10.1	—	—	—	88	88	0	86	83	-3.5	83	84	+1.2
White-Hisp.	77	89	+15.6	—	—	—	76	78	+2.6	82	82	0	76	80	+0.1
White-Asian	13	9	-30.8	—	—	—	-26	-24	-7.7	11	4	-63.6	20	16	-20.0
Grade 12*															
White-Black	86	93	+8.1	—	—	—	94	97	+3.2	—	—	—	—	—	—
White-Hisp.	84	91	+8.3	—	—	—	80	80	0	—	—	—	—	—	—
White-Asian	50	52	+4.0	—	—	—	-19	-22	+15.3	—	—	—	—	—	—

† (-) indicates gap closing

†† (+) indicates gap widening

* 1988–1990

SOURCE: PACE Analysis of CAP data.

science, scores increased for all ethnic groups between 1987 and 1990. The rate of increase was not uniform however, ranging from 2.7 percent for Filipino students to 11.8 percent for American Indian/Alaskan students in history/social science, and between 3.4 percent for Filipino students and 9.4 percent for American Indian/Alaskan students in science. The percentage gains in history/social science were higher for blacks, Hispanics, and Asians than for whites. As as result, the gap between blacks and whites closed 3.5 percent, and the gap between Asians and whites closed almost 64 percent. Similarly, the gap between white and other students narrowed somewhat in science during this period, closing 1.2 percent for blacks, 0.1 percent for Hispanics, and 20 percent for Asians.

On the whole, however, blacks and Hispanics perform at substantially lower levels than their white counterparts, and the distance between them continues to increase.

At the 3rd grade level, CAP scores dropped between 1987 and 1990 in every subject area for every ethnic group. Reading scores, which fell 2.5 percent overall, declined between 1.0 percent for Filipino students and 3.7 percent for American Indian/Alaskan students. Score declines were faster on a percentage basis for black, Asian, and Hispanic students than for white students. Similarly, math scores dropped between 0.3 percent for white and Filipino students and 2.5 percent for Pacific Islander and American Indian/Alaskan students.

At the 6th grade level, CAP score changes are more mixed, with scores for most ethnic groups rising Reading scores, which rose 0.4 percent overall, declined by less than one percent for black and Filipino students, held steady for white students and increased slightly for all other ethnic groups. Math scores decreased slightly (0.4%) for Filipino and black students, held steady for Hispanic and Pacific Islander student,s and increased slightly (0.7–1.3%) for all other groups.

The largest score increases occurred at the 8th grade level. Here all ethnic groups increased their scores in all subjects from two percent for Hispanic students in reading to 11.8 percent for American Indian/Alaskan students in history/social science.

Twelfth grade scores also increased during this period, with one exception, for all ethnic groups in reading and math. Reading scores for Filipino students held steady across the period.

Student Performance on the Scholastic Aptitude Test (SAT)

Students seeking admission to colleges or universities often are required to take all or part of the Admissions Testing Program of the College Board which consists, in part, of the Scholastic Aptitude Test (SAT) and the Achievement tests (discussed below). Test results are reported to high schools, colleges, universities, and scholarship programs. High schools use the reports to help students plan for college. Colleges and universities use the reports to recruit and select students, to supplement students' application materials, and to advise enrolled students on course selection and placement.[34]

The SAT is a 150-minute, multiple-choice test that measures developed verbal and mathematical reasoning abilities related to successful performance in college. Student performance on the SAT is reported on a scale of 200 to 800, with a standard error of measurement of approximately 30 points.

SAT scores are intended to aid in predicting academic performance in college. Providing state and national mean scores provides a context in which individual scores can be evaluated and indicates trends over time. The college board discourages broad generalizations about the relative quality of educational programs based solely on a comparison of SAT scores. In examining average scores, several contextual factors are important to consider. The most significant factor to be considered in attempting to interpret SAT scores by state is the proportion of students taking the test, or participation rate. In some states, only a very small percentage of the college-bound population sits for the SAT. These students typically have strong academic backgrounds and are applicants to the nation's most selective colleges and universities. It is expected that their SAT mean scores will be higher than the national average.[35]

Approximately 112,500 California students took the SAT in 1990. Eighty-six thousand of these were seniors while

26,000 were juniors. The remainder were from other grades. The number of test takers is known to have a depressing effect on average scores. The number of SAT test takers in California has been increasing. This topic is covered also in the 1989 *Conditions of Education*, pp. 80–81.

Other factors variously related to performance on the SAT include academic preparation (such as courses studied in high school and class rank) as well as the opportunity for academic achievement provided by a student's school and family environment. The relationship between measures of academic achievement and socioeconomic background (such as sex, racial or ethnic group, parental education, or household income) is complex, and any attempt to analyze scores differences between subgroups of the testing population must take multiple factors into account. The College Board cautions that because the percentage of students taking the SAT and Achievement Tests varies widely and the test takers are self-selected, the SAT is inappropriate for comparison purposes.[36]

The 1990 Scholastic Aptitude Test scores are presented in Figure 7.8. Average verbal aptitude scores for California and the nation declined in 1990. California verbal scores fell three points to 419. National verbal scores also fell three points, to 424. Mean math scores held constant in both California and the nation.

The trend in SAT scores during the past 18 years exhibits a rapid decline in verbal and math scores beginning in 1972[37] and continuing approximately through the end of the 1970s. During the 1980s, verbal scores for California and the nation fluctuated in the lower range of scores reported throughout the 1972-1990 period. The 1990 verbal scores are the lowest results seen during the past 18 years for both California and the nation. The 1990 California score of 419 is 45 points lower than the 1972 high point. Similarly, the 1990 national verbal score of 424 is 29 points lower than the 1972 zenith (Figure 7.9). California verbal scores were 11 points higher than the national average in 1972 and 5 points lower in 1990.

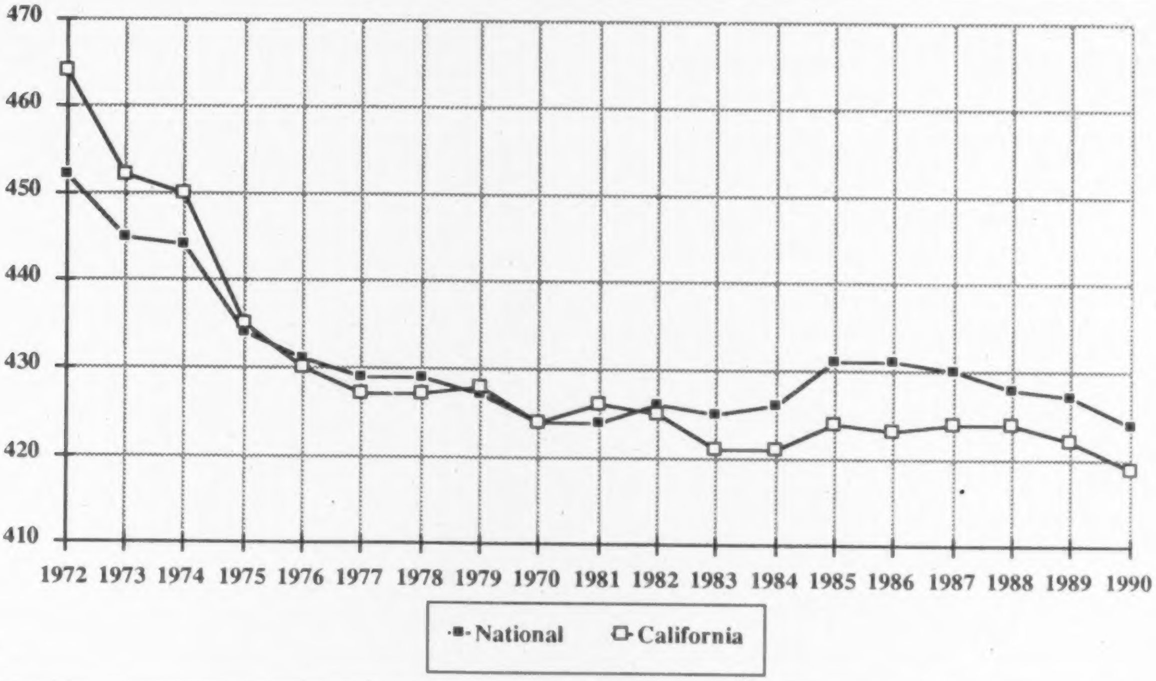
Math scores during the 1972-1990 period also declined sharply during the 1970s, but rebounded considerably during the following decade. California math scores fell 27 points between 1972 and 1978, then increased steadily through 1988, regaining 18 points. For the past two years, California math scores have been unchanged. Thus, California math scores in 1990 are only nine points below their 1972 zenith. National math scores exhibit a trend similar to California's scores, though they have not rebounded as far. National math scores dropped 18 points between 1972 and 1980, then regained 10 points through 1987. National math scores have remained steady for three years (Figure 7.10) California math scores were nine points higher than the national average in 1972 and eight points higher in 1990.

FIGURE 7.8 Scholastic Aptitude Scores for California and the Nation, 1972 Through 1990

	National		California	
Year	Verbal	Math	Verbal	Math
1972	453	484	464	493
1973	445	481	452	485
1974	444	480	450	484
1975	434	472	435	473
1976	431	472	430	470
1977	429	468	427	470
1978	429	468	427	466
1979	427	467	428	473
1980	424	466	424	472
1981	424	466	426	475
1982	426	467	425	474
1983	425	468	421	474
1984	426	471	421	476
1985	431	475	424	480
1986	431	475	423	481
1987	430	476	424	482
1988	428	476	424	484
1989	427	476	422	484
1990	424	476	419	484

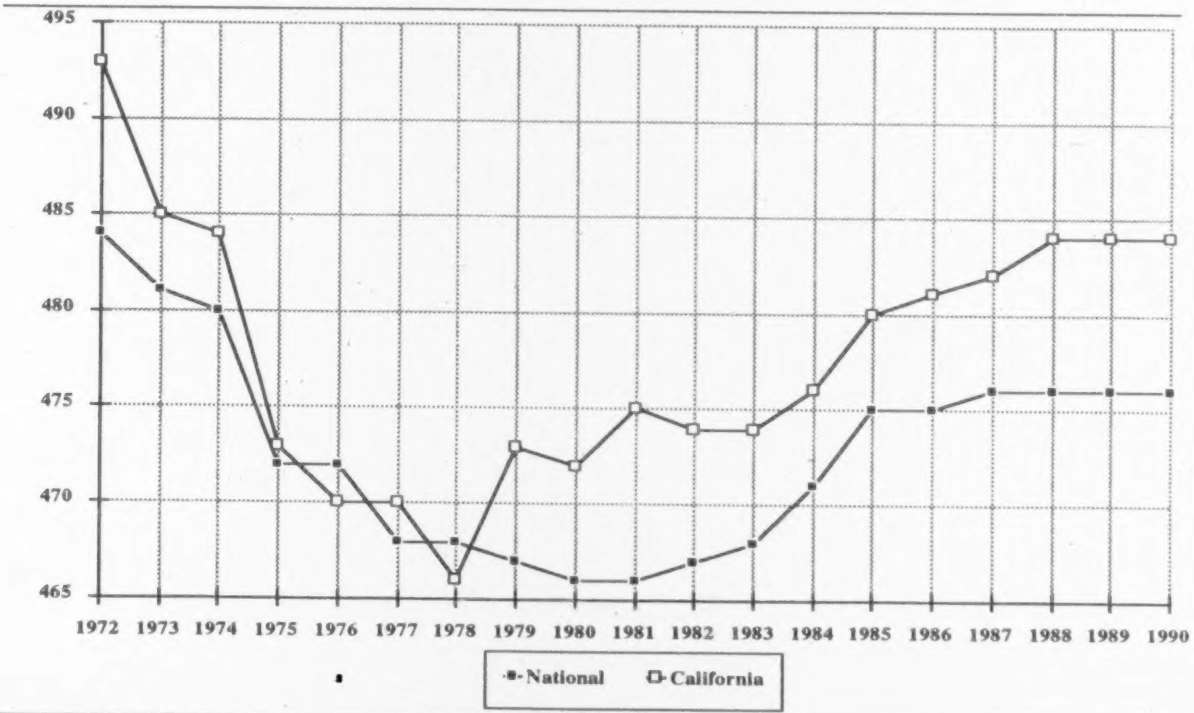
SOURCE: College Board

FIGURE 7.9 SAT Verbal Test Score Trends for California and the Nation, 1972–1990



SOURCE: College Board

FIGURE 7.10 Scholastic Aptitude Math Test Score Trends for California and the Nation, 1972 Through 1990



SOURCE: College Board

Achievement Tests

Achievement tests are designed to measure knowledge in specific subject areas and the ability to apply that knowledge. Achievement tests are independent of particular textbooks or methods of instruction, but the tests do evolve to reflect general trends in high school curriculum.

Achievement tests are given in English composition, literature, American history and social studies, European history and world cultures, mathematics level I, mathematics level II, French, German, Hebrew, Latin, Spanish, biology, chemistry, and physics. All are one-hour, multiple-choice tests, with the exception of a version of the English composition test that contains an essay in addition to multiple-choice questions. Scores on all the Achievement Tests are reported on a scale of 200 to 800, with a standard error of measurement of approximately 30 points.[38]

The 1990 Achievement Test results are displayed in Figure 7.11. California scores fall below national average scores in all subject areas except Spanish and Latin. The 1990 California scores are higher than those of the previous year in math I (1 point), Spanish (9 points), biology (2 points), and literature (2 points). The 1990 California scores are lower than those in 1989 in English composition (1 point), American history (7 points), math II (7 points), chemistry (1 point), French (4 points), German (1 point), European history (3 points), and Latin (4 points). There was no change in the physics score between 1989 and 1990. The percentage of Achievement Test takers in 1990 scoring at various levels of achievement is displayed in Figure 7.12.

FIGURE 7.11 Average College Board Achievement Scores for California and the Nation, 1988 – 1990

	Mean California Score			Mean National Score			California compared to the nation
Subject Area	1988	1989	1990	1988	1989	1990	1990
English Comp.	490	491	490	521	523	523	-33
Mathematics I	530	525	526	549	548	348	-22
American History	509	513	506	529	534	530	-24
Mathematics II	651	652	645	664	666	663	-18
Spanish	549	555	564	536	546	551	+13
Biology	517	527	529	553	561	561	-32
Literature	501	496	498	528	528	529	-31
Chemistry	557	553	552	577	576	574	-22
French	522	528	524	538	549	545	-21
Physics	574	574	574	599	596	603	-29
German	553	567	566	565	572	577	-11
European History	529	534	531	549	547	546	-15
Latin	561	576	572	557	562	560	+12
Hebrew	646	654	*	637	637	*	*

* Modern Hebrew was introduced in 1989. Data were not available for the full cohort.

SOURCE: College Board

NEW AND PROPOSED CALIFORNIA ASSESSMENT REFORMS

California policy makers, like those at the nation level, are grappling with questions regarding appropriate and useful measures of educational success, Assessment is viewed as a component of state education reform. The strategy of this reform "must simultaneously attend to curricular goals, instructional materials, teacher preservice and inservice education, administrator leadership training, and assessment for both teacher use and public accountability."[39] California education leaders view assessment as (1) driving curriculum, that is, focusing instruction on aspects of student performance that are most essential; (2) informing the public about the status and progress of student achievement, thereby garnering the public support essential to further progress; and (3) informing schools about strengths and weaknesses in student performance, thus providing feedback that is essential to programmatic corrections.[40]

The problem with conventional assessments, like multiple-choice tests, is that most testing instruments fall short in measuring the types of student performance that are most meaningful.[41] In fact, California officials argue that most of the new and revised tests implemented so far have only partially supported educational reform, and have even obstructed progress toward reform.[42] The adage holds: you get what you assess, and you don't get what you don't assess.

What needs to be assessed? The business community has specified skills graduates need: learning to learn; listening and oral communication; competence in reading, writing, and computation; adaptability: creative thinking and problem solving; personal management: self-esteem, goal setting, motivation, and personal/career development; group effectiveness: interpersonal skills, negotiation, and teamwork; and organizational effectiveness and leadership.[43]

In contrast, California assessment instruments have relied on multiple-choice tests. The rationale for multiple-choice,

FIGURE 7.12 Percentage and Distribution of Achievement Test Takers, California and the Nation, 1990

NATIONAL

Score	Amer. Hist.	Biology	Chemistry	Eng. Comp.	Literature	Math
700-800	5%	11%	14%	4%	5%	39%
600-699	22	29	28	21	25	39
500-599	35	33	33	34	31	18
400-499	29	20	21	29	26	4
300-399	9	6	4	10	11	1
200-299	0	1	0	1	1	0

CALIFORNIA

Score	Amer. Hist.	Biology	Chemistry	Eng. Comp.	Literature	Math
700-800	3%	9%	12%	2%	3%	32%
600-699	17	21	23	15	17	39
500-599	32	29	31	30	31	22
400-499	34	26	27	34	31	5
300-399	13	13	7	17	16	1
200-299	1	2	0	2	2	0

SOURCE: College Board

machine-scored testing—on the one hand, economy and efficiency, and on the other hand, the behaviorist view that complex skills and understanding are bolted together from discrete subskills and bits of information—has come under fire In fact, the current view holds that assessment focused on disaggregated bits of information has a perverse impact on student learning.[44] Shepherd explains: "When important standardized tests become the curriculum guides in a school or classroom, the quality of instruction is reduced in several respects. First, . . . the curriculum is narrowed to only those topics that are tested. This often means that writing, social studies, and science are driven out of the instructional day . . . . In addition to the predicted distortion of curricular frameworks, we now have evidence of unanticipated effects on the way that even basic skills subjects are taught. For example, in many cases teachers teach reading and math using worksheets and practice materials that closely resemble test materials. The behavioristic decomposibility and decontextualization assumptions . . . then shape the daily mode of instruction, leading to repeated drill on isolated skills."[45]

Given this shift in perspective away from multiple-choice assessments, and given the emerging goals for instruction and learning, assessment reform means broadening the scope of assessment "to support instruction focused on challenging and engaging activities. Authentic, performance-based assessment gives students opportunities to show what they can do and, in the process, supports instruction that fosters their abilities to do such things as communicate in speech or writing, create or construct an argument, or use their knowledge to solve real-life problems."[46] Figure 7.13 compares multiple-choice and performance-based assessments on a range of issues such as definition, purpose, skills measured, and the like.

FIGURE 7.13 Summary of the "State of the Art" in Assessment

	Multiple Choice	Performance Based
Definition	• The item itself contains the answer. Student selects the best answer(s) from those provided. Usually in written format. • Standardized, commercial (NRT) provides information about how examinees perform relative to other examinees. • Objective-based, commercial and home-made (CRT) provides information about how examinees perform relative to a specific standard criteria of performance.	• Answer is not in the item. Student must produce behavior and/or product. • Assessment of how students perform in behavior-based test situations in formats similar to instruction. • Close approximation to real life. • Measurement of knowledge-in-use or application of knowledge and skills.
Purpose and Use	• Continuum from informing teachers and parents to monitoring state performance (CRT/NRT). • NRT to compare and rank students • CRT prescriptive, grouping of students for instruction, strengths and weaknesses (CRT/NRT). • Typically summative program evaluation (CRT/NRT).	• Similar to CRT, as prescriptive evaluation tool. • Holistic and/or primary trait measurement. • Formative program evaluation with emphasis on student evaluation.

FIGURE 7.13 Summary of the "State of the Art" in Assessment (continued)

	Multiple Choice	Performance Based
Test Security	• Items secret for NRT/CRT. • Items are a sample of a large domain. • Cheating opportunities exist.	• Some items are known and available. • Some items are alluded to in the reports and related materials. • Items are a sample of a large domain. • Cheating opportunities exist.
Administration	• Standardized procedures. • Minimal training necessary. • Proper procedures could be violated and no one would know. • Can be done in classroom with little modification.	• Standardized set up for certain tasks. • Time variable - unclear influence. • Coaching may be permitted but not clearly defined. • Training may be necessary. • May require special space.
Brief Background Regarding Uses	• Initial use in Army to determine who was trainable (NRT). • (NRT) Psychometric method to compare students to each other and disperse students on a bell shaped curve. • (CRT) Mastery learning method to assess level of achievement to predetermined criteria. • Traditionally skill-based, assessing one skill per item.	• Emerging as an alternative to multiple choice for measuring observable achievement, or higher level thinking skills. • Alternative to measuring "bits" of knowledge and moving toward demonstrating knowledge-in-use.
Skills Measured	• Can measure recognition of error and attributes of text. • Diagnose what problems exist in basic skills (CRT/NRT). • Items measuring higher level thinking still in development. • Can measure content knowledge and knowledge about process. • Can widely sample subject matter content.	• Face validity for measuring integrated, higher order thinking skills e.g., ability to analyze, synthesize, evaluate, etc. • May draw out divergent thinking. • Can measure process directly as well as content knowledge. • Usually measures narrow range of skills.
Populations Tested	• NRT: special education often excluded. • Historic cultural bias issue with minorities.	• Not clear yet if special education will be excluded or not. • "At Risk" students may be more successful.
Reliability and Validity	• Test administration and scoring can be reliable, but not necessarily valid • Validity depends on adequacy of domain sampling and the match between the items and the criterion; e.g., real life.	• Test administration and scoring may not be reliable. • Face validity is usually high; but content and predictive validity need to be established. • Problem of generalizing from a small sample of performance.

FIGURE 7.13 Summary of the "State of the Art" in Assessment (continued)

	Multiple Choice	Performance Based
Use of Technology	• Item Response Theory (IRT) application. • Item banks. • Scoring. • Computer adaptive assessment.	• Computer simulations. • Video/audio recording what occurred to support score reliability (for training). • Student can record answer on computer.
Costs Materials Staff Inservice Development	• NRT: Commercial price fixing among vendors. • Costs for development absorbed into best materials and inservice charges. • Usually under $3.00 per student. • CRT: Can be expensive to develop at local level.	• High development, staff training, and scoring costs. • Possible equipment costs.
Storage	• NRT/CRT item banks, electronic storage. • Consumable booklets. • Reusable booklets. • Answer sheets.	• Critical. • Large space required for certain "hands-on" apparatus and equipment. • Transporting from storage critical.
Scoring	• Scanable. • Minimal cost per student for CRT/NRT from vendor. • Expensive CRT scoring at local level - initial capital outlay and training. • Objective, answers are right or wrong. • Teacher may or may not be involved.	• Highly likely teachers are involved in scoring. • Labor intensive. • Time intensive. • Scoring rubric is elaborate. • Scoring rubric difficult to develop. • May be subjective, subject to interpretation. • Training is necessary for scoring.
Reporting Results	• Turnaround time is predictable and fast. • Quality reports based on psychometric principles. • Extensive scores to use for analysis. • Multiple reporting options. • Easily quantifiable, easy to make comparisons. • Reduces results to numbers. • Appealing because people like numbers.	• Reporting options will be different. • Standards and criteria are not readily available or agreed upon by professional community. • May not be easily quantifiable. • Appealing because learning is complex and assessment of performance is not reduced to numbers.
Use of Results	• NRT/CRT for program evaluation and improvement, special placement and individual student diagnosis. • Accountability.	• Program evaluation and improvement • Individual student diagnosis. • Unclear if reults can be used for

SOURCE: San Diego County Office of Education: Planning, Assessment, and Leadership

THE STATUS OF STATE ASSESSMENT REFORM IN EARLY 1991

The key question currently is: what will happen to the California Assessment Program (CAP)? As previously mentioned, funding for CAP was vetoed by former Governor Deukmejian in the summer of 1990. As a result, the 12th grade test was not administered last fall, and there will be no spring administration of CAP in 1991.

Two state committees have been established to explore a state assessment reform agenda. A technical advisory committee will address issues such as relating individual and matrix samples and pursuing a meaningful testing program without lapsing into multiple-choice formats. A policy assessment committee will develop recommendations for legislation regarding future assessment strategies for the state. In addition, Assemblyman Quakenbush's legislation regarding pilot projects on performance-based and alternative assessments was funded and work is proceeding.

There is tremendous momentum at national, state, and local levels regarding the exploration and development of powerful curriculum- and instruction-based performance assessments. CAP played an important role in carrying the state reform agenda, not only in regards to the assessment of student performance but more broadly in terms of pursuing the educational reform agenda to which California already has committed substantial resources and effort. By most accounts, CAP is an excellent program and looked to for leadership nationwide. Something must take its place, if it is not itself reestablished

Governor Wilson has demonstrated an understanding of the importance of testing and assessment. What this means in practice is being debated now. Regardless of the form strategy takes, it is certain that California's attention to assessment thus far has enabled the state to influence the curriculum and instruction delivered to California students. If the state allows that effort to wither, the effects will be felt in classrooms statewide and a window of opportunity for school improvement will have closed.

[1] The following individuals provided the direction and documentation without which this chapter could not have been written: Dale Carlson and Judy Kingsley, California State Department of Education; Karen Mowry, Senate Education Committee; Ruben Carriedo, San Diego City Schools; and Marshall Smith, Dean, Stanford University School of Education. The chapter is based substantially on documents provided by these individuals. Portions of the text dealing with state or local positions and operations borrow substantially from these documents, with appropriate citations.

[2] C. Kennedy (1985, May). *Evolution of the California Assessment Program: 1958–1985*. Sacramento, CA: California State Department of Education.

[3] Jacob E. Adams, Jr., *Statewide Educational Testing in California: The Story of the California Assessment Program* (Sacramento: California State Department of Education. August 13, 1990).

[4] Jacob E. Adams, Jr, *Performance Testing in the California Assessment Program: An Update* (Sacramento: California State Department of Education, August 9, 1990).

[5] California State Department of Education, *Statewide Educational Testing*.

[6] Ibid.

[7] California's graduation requirements include three years each of English and social science; two years each of mathematics, science, and physical education; and one year of fine arts or foreign language. One semester of economics was added subsequently.

[8] B. Honig, "The Key to Reform: Sustaining and Expanding Upon Initial Success," *Educational Administration Quarterly*, 24 (1988), 257–271.

[9] B. Honig, B. (1985). "The Educational Excellence Movement: Now Comes the Hard Part," *Phi Delta Kappan*, 66 (1985), 675–681.

[10] Jacob E. Adams, Jr., *California Education Summit: Background Papers* (Sacramento: California State Department of Education, February 1990), 14.

[11] *Performance Testing in the California Assessment Program.*(Sacramento: California State Department of Education).

[12] *California Summit Background Papers* (Sacramento:

[13] California Assessment Program. (n.d.). *Writing Assessment: Thinking Through Writing* (Sacramento: California State Department of Education [n.d.])

[14] Ibid.

[15] Ibid.

[16] Jacob E. Adams, Jr., *Impact of the CAP Writing Assessment on Instruction and Curriculum: A Preliminary Summary of Results of a Statewide Study by the National Center for the Study of Writing* (Sacramento: California State Department of Education [n.d.]), Draft.

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[18] Ibid.

[19] Ibid.

[20] *Performance Testing in the California Assessment Program* (Sacramento: California State Department of Education).

[21] California Assessment Program, *A Question of Thinking: A First Look at Students' Performance on Open-ended Questions in Mathematics* (Sacramento: California State Department of Education, 1989).

[22] Ibid.

[23] *Performance Testing in the California Assessment Program.* (Sacramento: California State Department of Education).

[24] California Assessment Program, *New Directions in Science Assessment* (Sacramento: California State Department of Education, Spring 1990).

[25] Ibid.

[26] *Performance Testing in the California Assessment Program.* (Sacramento: California State Department of Education).

[27] California Assessment Program, *New Directions in History-Social Science Assessment: Elementary and Middle School* (Sacramento: California State Department of Education, Fall 1990).

[28] Ibid.

[29] Jacob E. Adams, Jr., *California Education Summit: Final Report* (Sacramento: California State Department of Education, February 1990), 2–3.

[30] Ibid.

[31] The test in written language was not administered at the 8th grade level in 1989 or 1990.

[32] The 12th grade test in written language was not administered in 1988 or 1990; the spelling test was not administered in 1988, 1989, or 1990.

[33] James W. Guthrie, et al., *Conditions of Education in California 1989*, (Berkeley: University of California, Policy Analysis for California Education [PACE], January 1990).

[34] The College Board, *College Bound Seniors 1990 Profile of SAT and Achievement Test Takers: California Report* (Princeton, NJ: Educational Testing Service, 1990).

[35] Ibid.

[36] Ibid.

[37] College-Bound Seniors reports from the College Board were not prepared prior to 1972. The averages for 1967–1971 are estimated by the College Board.

[38] The College Board, *College Bound Seniors 1990 Profile of SAT and Achievement Test Takers: National Report* (Princeton, NJ: Educational Testing Service, 1990).

[39] California State Department of Education, "Educational Accountability: A Driving Force for School Reform, *Education Summit, Background Papers,*" 4-5.

[40] "Educational Assessment: Harnessing the Power of Information to Improve Student Performance," *Education Summit, Background Papers* (Sacramento: California State Department of Education), 14.

[41] Ibid.

[42] Ibid.

[43] Jacob E. Adams, "Workplace Basics: The Skills Employers Want" Washington, DC: American Society for Training and Development and the U.S. Department of Labor, Employment and Training Administration, 1988).

[44] "Educational Assessment," *Education Summit, Background Papers* (Sacramento: California State Department of Education), 15.

[45] Research News and Comment, Shepherd Interview.

[46] "Educational Assessment," *Education Summit, Background Papers* (Sacramento: California State Department of Education), 15–16.

Chapter 8

Fiscal Resources

Financing California's K–12 public schools in one of the largest fiscal undertakings in the United States and the largest government activity in California. The sheer magnitude of the public school system—over 4.75 million students—and the money needed to finance it—nearly $25 billion for the 1990–91 school year—is difficult for most to comprehend. Large growth in the numbers of students, and the large numbers of additional dollars needed to finance this growth, further complicate public understanding of California school finance.

This chapter discusses fiscal issues. The first section reviews California public school funding over the past decade including "nominal" and "real" dollars, education funding as a proportion of the general fund, and sources of school dollars by governmental source.[1] The second section compares California to other large states. Section three discusses the equity of the distribution of dollars across school districts. Section four summarizes information on the manner in which dollars are used in districts, schools, and classrooms. The last section provides several alternative projections of education revenue needs for the next decade.

SIZE AND CHARACTERISTICS OF THE CALIFORNIA PUBLIC SCHOOL FINANCE SYSTEM

This section reviews total funding in nominal and real terms, sources of school revenues, funding of education and other governmental services as a percent of personal income, and distributional characteristics of school revenues.

HIGHLIGHTS

- Total California spending for public school support is now $25 billion.
- Public school support is the largest component of the California state budget.
- California's 1990 public school support increased $12 billion over 1980.
- Because of enrollment increases and inflation, it now takes $2 billion more each year in public school support simply to stay even..
- At the current pace, California school spending will be $50 billion in the year 2000.
- Despite such huge total sums, California spends $24,000 less per classroom than the national average.
- High-spending states, such as New York or New Jersey, spend as much as $120,000 more per classroom than California.
- Lottery funds are a small part of total school spending--only 3.5¢ out of every school-support dollar.
- Despite the accompanying clamor, Proposition 98 did *not* protect school spending in California. Inflation-adjusted per-pupil purchasing power has declined since its passage.

Total Funding in Nominal and Real Terms: 1981–82 to 1990–91

For the 1990–91 school year, the Legislative Analyst estimates that total public school funding will be $24.91 billion (Figure 8.1). With 5.252 million students, that amounts to $4,743 per student.[2]

These revenue figures represent dramatic increases over the past ten years. Total funding has risen from $12.5 billion in 1982 to $24.9 billion today, a rise of $12.4 billion or almost 100 percent. On average, public school funding has risen by $1.24 billion dollars every year, a large amount by any calculation. Moreover, most of that funding rise has occurred since 1983 when California enacted its early 1980s reform program, Senate Bill 813.

Although enrollment has risen substantially during this same period, from 4.2 million students in 1982 to 5.25 million in 1991—an increase of over one million students—funding per pupil has risen during the past decade as well. Dollars per child equaled $2,981 in 1981–82, and rose to $4,743 for 1990–91, an increase of $1,761 (59%). Again, the per-pupil funding increase has occurred primarily since 1983. In short, these funding figures confirm that, at least viewed through a simple set of lenses, the state has boosted school funding.

When adjusted for inflation, however, the funding increases are much less dramatic (Figure 8.1). Over the past ten years, real, that is, inflation-adjusted dollars per child, rose

FIGURE 8.1 Total California K–12 Education Revenues, Nominal and Real, 1981–82 to 1990–91

	Total Funding[a]				1981–82 Dollars[b]	
Year	Total Funding (millions)	ADA	Per ADA	Percent Change	Per ADA	Percent Change
1981–82	12,528.0	4,202,000	2,981	2.5%	2,981	(4.7)%
1982–83	12,635.5	4,231,431	2,986	0.2	2,817	(5.5)
1983–84	13,348.4	4,260,873	3,133	4.9	2,826	0.3
1984–85	14,995.4	4,352,597	3,445	10.0	2,967	5.0
1985–86	16,776.3	4,469,821	3,753	8.9	3,113	4.9
1986–87	18,240.5	4,611,637	3,955	5.4	3,177	2.1
1987–88	19,701.3	4,722,792	4,172	5.5	3,205	0.9
1988–89	21,758.6	4,871,916	4,474	7.2	3,283	2.4
1989–90	23,551.7	5,039,003	4,674	4.5	3,279	(0.1)
1990–91	24,908.1	5,252,496	4,743	1.5	3,191	(2.7)
Cumulative Change:						
Amount	$12,380.1	$1,050,496	$1,761	—	$210	
Percent	98.8%	25.0%	59.1%		7.0%	

[a] Includes local debt, excess property taxes, and state property tax subventions. Includes all General Fund and special fund monies in Item 6110, contributions to the State Teachers' Retirement Fund (STRF), and state capital outlay. Also includes payments on general obligation bonds and PMIA loans. Includes funds from the Petroleum Violation Escrow Account for the replacement of school buses for 1988–89 and 1989–90. Also includes State Legalization Impact Aid Grants for 1987–88 through 1989–90. Excludes revenues from bond sales and funding for State Library programs.

[b] Adjusted by the GNP deflator for state and local government purchases.

SOURCE: Legislative Analyst, July 19, 1990, Revised Figures.

only $210 (7%), a modest increase. But this adjusted figure does not itself tell the full story. First, California's education funding funding fell sharply in the early 1980s, dropping 4.7 percent between 1981 and 1982, and another 5.5 percent between 1982 and 1983—a loss of over ten percent between 1981 and 1983. Then funding grew from 1983 to 1989, but the growth was uneven from year to year. Finally, funding has declined during the past two years, despite passage of Proposition 98, which was supposed to guarantee schools a base funding level. Thus, the ten-year average includes two years of decline at the beginning, six years of increase in the middle, and two years of decline at the end, hardly a pattern that encourages long-term planning.

Even with this inconsistent pattern of annual change, however, real funding per pupil did rise 16 percent between 1983, the year of reform, and 1989. Much of this increase could have been used to compensate for losses at the beginning of the decade, or a large portion of it could have been used to deploy several new education improvement strategies. Given that at least 16 percent new money (in per-pupil inflation adjusted terms) was provided for a six-year period after passage of a major education reform, a reasonable policy question is the degree to which this funding spurt was invested to produce system improvements. This issue will be discussed in section 3.

Perhaps one of the most surprising facts in Figure 8.1 is the inflation-adjusted per-pupil decline in funding during the past two years, the time period when Proposition 98 was supposed to have insured a funding base for California's public schools. Funding dropped in real terms in 1989–90, the first year of Proposition 98 and a year in which the state had an unexpected budget surplus of $2.5 billion. And funding dropped 2.7 percent in real terms between 1990 and 1991 when the state admittedly faced a budget shortfall. While Proposition 98 probably helped—education funding cuts likely would have been larger without the Proposition 98 safeguard—the facts show that even a constitutional provision designed to prohibit real funding declines has not worked in practice.

Californians should not become skeptics, though, about the porous powers of Proposition 98. Research in other states strongly suggests that revenue "earmarking" and protection strategies seldom operate as intended.[3] It is difficult to overcome the political process surrounding budget decisions even through constitutional limitations. The legislature and governor in any state will strive to maintain their powers to allocate scarce tax revenues among all functions supported by state government. Nevertheless, Proposition 98 undoubtedly cushioned California's public school funding decline, since in hard times, California state government historically has treated schools much less favorably than do other state governments.[4]

The numbers in Figure 8.2 show further that education, compared with other state functions, has not received either inordinately or disproportionately large funding increases during the past four years. Overall between 1987 and 1991, the general fund rose an estimated 32.7 percent, and K–14 funding (the educational sector including community colleges directly affected by Proposition 98) increased by 35.3. But K–12 funding (no community college included) increased less than the general fund increase—only 29.1 percent over this time period. Indeed, except for the change between 1990 to 1991, when K–12 education rose three percentage points more than the general fund, K–12 education funding increases have generally been less than other government functions shown in the figure. Health and welfare rose at larger rates over this time period than did education, as did corrections which rose 86.6 percent. These numbers are additional indicators that Proposition 98 did not cause dramatic distortions in budget decisions about funding. Indeed, without Proposition 98, the decline in real funding per public school child probably would have been greater.

Sources of Public School Revenues

California public school revenues are derived from local, state, and federal sources (Figures 8.3 and 8.4). State general funds provide the largest amount of money, $15.9 billion in 1990–91, with property taxes second at $5.1 billion, and other sources far below these amounts. State revenues increased at an average of just over $1 billion per year between 1982 and 1991.

FIGURE 8.2 California Education and Selected General Fund Expenditures, 1986–87 to 1990–91

	Total Revenues (millions)				Percent Change ***			
	1986–87	1988–89	1989–90*	1990–91**	1987–89	1989–90	1990–91	1987–91
Proposition 98 (K–14)	$12,770	$14,482	$15,742	$17,285	13.4%	8.7%	9.8%	35.3%
K–12 Education	12,245	13,843	14,754	15,812	13.1	6.6	8.9	29.1
Higher Education	4,785	5,462	5,918	6,157	14.1	8.3	4.2	28.7
Health and Welfare	9,557	11,312	12,510	13,120	18.4	10.6	5.7	37.3
Corrections	1,187	1,520	1,892	2,215	28.1	24.5	17.9	86.6
General Fund	$31,469	$35,897	$39,697	$41,744	14.1%	10.6%	5.9%	32.7%

* Estimate from Governor's 1990–91 Budget.
** 1991 Budget as signed.
*** Note that the columns represent 1, 2, or 3 years.

SOURCE: Department of Finance, November 1990

FIGURE 8.3 Sources of K–12 California Education Funding, 1980–81 to 1990–91 (in millions)

Year	Local Property Tax Levies	State Aid	Federal Aid	Lottery	Other Local Income	Total Funding
1980–81	$2,409.7	$7,800.4	$1,151.4	—	$901.4	$12,262.9
1981–82	2,933.6	7,762.3	998.4	—	833.7	12,528.0
1982–83	2,941.8	7,884.8	963.2	—	845.7	12,635.5
1983–84	2,975.5	8,478.8	1,063.1	—	831.0	13,348.4
1984–85	3,298.4	9,674.6	1,135.0	—	887.4	14,995.4
1985–86	3,595.5	10,508.9	1,197.2	506.2	968.6	16,776.3
1986–87	3,804.2	11,857.3	1,229.3	410.9	938.6	18,240.5
1987–88 (est.)	4,097.7	12,633.5	1,312.5	650.9	1,006.8	19,701.3
1988–89 (est.)	4,418.6	13,945.6	1,520.5	834.3	1,079.7	21,798.6
1989–90 (est.)	4,793.4	15,023.4	1,742.0	835.0	1,157.9	23,551.7
1990–91 (bgt.)	5,121.2	15,944.8	1,765.4	835.0	1,241.7	24,908.1

SOURCE: Legislative Analyst, July 19, 1990, Revised Figures.

Property tax revenues were stagnant between 1982 and 1984, then began increasing at about $300 million per year, and for the past three years have been rising at a rate of about $350 million per year. Since the state sets the revenue limit, however, a larger than expected rise in property tax revenues simply means a smaller amount of state funds are needed, and vice versa. In contrast to most states and to California before Proposition 13, increases in local property tax revenues rarely contribute to the school district bottom line.

Lottery revenues, thought by the public to be a gigantic fiscal boon for the schools, provide only $0.8 billion of the total of $24.9 billion public school budget, or only 3.35 percent. Over the past three years, moreover, the lottery total has remained about the same, thus declining in real terms and even more so in per-pupil terms. On a per-pupil basis, the lottery provides about $160 for the 1990–91 school year, compared to $171 for the 1988–89 school year. As it did when it began, the lottery provides enough money to buy about four or five student textbooks—a help, but hardly a windfall.

Federal revenues, which stagnated at the beginning of the 1980s, have increased modestly since the mid 1980s. Federal budget problems render predictions about the future of federal education funds difficult, but Congress, for the past few years, has increased the education budget far beyond the president's initial requests. The creation of National Education Goals further boosts support for a larger federal role in financing education programs, but political difficulties surrounding action on the budget deficit cloud the future.

Figure 8.4 reveals that sources of funding for California's public schools have been remarkably stable over the past decade. The state provides approximately 64 percent of all revenues, local property taxes about 21 percent, federal revenues about 7 percent, and the lottery about 3.5 percent. The state role in California is much higher than the national average of 50 percent because of Proposition 13, which limited local property tax rates to one percent of assessed value and limited assessed value changes to only minute increases except when property is sold. Property taxes may seem to the public to be a major source of school funding, but they provide only one in five school dollars.

FIGURE 8.4 **Percent Revenues for California K–12 Education by Source, 1981–82 to 1990–91**

Year	Local	State	Federal	Other	Lottery
1981–82	23.4%	62.0%	7.9%	6.7%	n.a.
1982–83	23.3	62.4	7.6	6.7	n.a.
1983–84	22.3	63.5	8.0	6.2	n.a.
1984–85	22.0	64.5	7.6	5.9	n.a.
1985–86	21.4	62.6	7.2	5.8	3.0
1986–87	20.9	65.0	6.7	5.1	2.3
1987–88	20.8	64.1	6.7	5.1	3.3
1988–89	20.2	64.0	7.0	5.0	3.8
1989–90	20.3	63.4	7.4	4.9	3.5
1990–91	20.6	64.0	7.1	5.0	3.4

SOURCE: Legislative Analyst, July 19, 1990, Revised Figures.

NATIONAL COMPARISONS

Another way to gauge California's fiscal support for public schools is to compare it to national and other state averages. On most national fiscal comparisons, California ranks below average.

California's education spending as a percent of personal income is less than the national average, as Figure 8.5 shows. It is estimated that in 1989–90, California spent 4 percent of its income on public schools while the national figure, using comparable data, was 4.6 percent. Indeed, the numbers in Figure 8.5 show that California has spent a lower percentage of its personal income on K–12 public schools than did the nation on average each year for the past decade. These figures also bolster a point made earlier, that during the recession of the early 1980s, California's support of the public schools was less than that in other states. In 1981–82, for example, California spent only 3.1 percent of personal income on public schools, compared to the 4.4 percent national figure. Further, while national figures are relatively stable across the decade, California's change dramatically. The national figures range from 4.4 to 4.7 percent, while the California figures range

FIGURE 8.5 California Revenue for K–12 Education as a Percent of Personal Income

	California			National		
Year	Personal Income*	Revised Revenue Estimates	Percent of Income	Personal Income*	Revised Revenue Estimates	Percent of Income
1981–82	308,731	9,478	3.1%	2,514,231	110,274	4.4%
1982–83	328,033	12,050	3.7	2,663,432	120,433	4.5
1983–84	352,438	13,300	3.8	2,834,385	128,331	4.5
1984–85	389,183	14,982	3.8	3,101,163	139,635	4.5
1985–86	422,608	16,745	4.0	3,317,545	151,333	4.6
1986–87	453,110	18,692	4.1	3,519,364	162,433	4.6
1987–88	490,846	19,871	4.0	3,754,396	174,219	4.5
1988–89	535,721	23,360	4.4	4,058,655	189,625	4.7
1989–90	579,189	23,365	4.0	4,368,129	200,734	4.6

* in millions

SOURCE: U.S. Department of Commerce, *Survey of Current Business,* August 1990, and revised revenue estimates from National Education Association, *Estimates of School Statistics* , Washington, DC: NEA, selected years.

FIGURE 8.6 Comparison of Selected School Finance Variables California Versus Five Other Large States

	Estimated Expenditures per ADA 1989–90	1987-88 State/Local Expenditures for Public Schools per $1,000 of Personal Income	1987–88 per Capita State/Local K–12 Expenditures as % of total State/ Local Expenditures	Estimated Average Classroom Teacher Salary 1989–90		Student Enrollment per Classroom Teacher 1989–90
				Nominal	Adjusted*	
California	$4,075	$38.26	20.6%	$38,996	$36,963	23.1%
Texas	4,011	50.32	28.3	27,502	29,257	15.1
New York	8,165	52.12	22.2	38,800	33,886	12.7
Illinois	4,853	37.41	23.5	32,687	33,218	15.2
Pennsylvania	5,728	46.19	27.8	32,809	32,646	14.5
Michigan	5,073	51.11	25.1	36.010	38,227	18.6
U.S. Average	4,896	45.03	24.2	31,304	31,304	15.9

* Adjusted for cost-of-living differences across states. See Odden & Conley, forthcoming.

SOURCE: National Education Association, *Estimates of School Statistics,* 1989–90; U.S Bureau of the Census, *Governmental Finances* , 1987-88.

from 3.1 to 4.4 percent. Most disturbingly, the percentage dropped in 1990 and likely will drop again in 1991, just at the time the schools are experiencing the largest enrollment increases.

Figure 8.6 compares selected school finance statistics for California to that of several other large states. In most cases, California ranks below these states as well as the national average. According to these figures, California spent $4,075 for current operating expenses in 1989–90, below the national average of $4,896.[5] In other words, California spends nearly $825 per pupil below the national average. At 30 students a classroom, that equals $24,000 a classroom below the national average; at 1,000 students in a school, that difference equals $800,000 less per school. These are substantial differences.

The differences in spending between California and individual states is even more dramatic. California spends nearly $4,000 less per pupil than New York state, $1,600 less per pupil than Pennsylvania, $1,000 less per pupil than Michigan, and $800 less per pupil than Illinois. For the states in Figure 8.6, which represent other large and technologically advanced states, California spends more than only Texas, and the difference is less than $100 per child. While the precise dollar amounts might be somewhat different than indicated in the chart because of varying data definitions across states,[6] the pattern of difference between California and these states would stay the same. The fact simply is that California spends less per pupil on its public schools than most of the other large states in this country.

Anecdotal evidence suggests that these funding differences produce differences in programs and services. Most elementary schools in higher-spending midwest and northeast states have, in addition to one teacher for every 20 or 25 students and personnel supported by categorical grants, a music and art teacher, perhaps a science teacher, a physical education teacher, maybe a reading specialist, a librarian (if not a two- to three-staff library and media resource operation), and day care and preschool in many places. Most California elementary schools have a teacher for every 30 students and, at most, one extra specialist. At the middle school level, schools in higher-spending states have seven- and eight- rather than six-period days and a comprehensive set of electives, including advanced foreign languages. California middle schools usually have six periods and a minimum array of electives. In short, California's lower spending produces fewer program offerings and larger class sizes.

The data in Figure 8.6 show again, with different numbers, that California exerts less revenue raising for public schools compared to the national average as well as several other large states. In 1987–88, the most recent year for which comparable data are available, California's state and local expenditures per $1,000 of personal income was just $38.26, far below the national average of $45.03, and below that in the states cited other than Illinois. Indeed, all the other states cited, except Illinois, spent above the national average.

Further, per-capita state and local expenditures for elementary and secondary schools as a percent of total state and local expenditures for all functions also was below the national average in California (only 20.6 percent in 1987–88), compared to 24.2 percent nationally and higher figures in all the other states presented. This figure might reflect the greater demand in California for noneducation services, especially by a large immigrant population. When combined with the other indicators in this chapter, however, these data show simply that California spends less of its private and public income for K–12 education than do other states. The fact is that K–12 public schools are not as high a priority in California as they are nationally, on average, and in most other large states that are similar to California economically.

California's teachers earn average salaries that are near the top of the scale compared to other states. Indeed, for the states shown in Figure 8.6, average teacher salaries in California are the highest and are significantly above the national average. However, when salaries are adjusted for cost-of-living across the states, California's average drops and other state figures increase.[7] Once adjusted, Michigan has the highest average teacher salary. California though still ranking high, is not at the top.

One product of high teacher salaries and low per-pupil spending is large class sizes. The last column in Figure 8.6 shows that there are 23.1 students per classroom teacher in California, higher than any of the states presented and far above the national average of 15.9. Thus, California trades higher teacher salaries for larger class sizes. Note the startling numbers in this column for New York where there is one highly paid classroom teacher for every 12.7 students. That is how New York uses its much higher expenditures per pupil.

There are productivity issues associated with this allocation of resources. Higher teacher salaries may recruit more able individuals into the education profession,[8] and more able teachers are better teachers.[9] Thus, spending increased revenues on higher teacher salaries could be a productive use of funds, if the policy goal is to recruit and retain more able individuals in teaching. Lowering class size across the board, especially if the goal is teaching basic skills, is probably not a productive use of increased dollars. Student achievement does not improve unless class size is reduced to quite small groups—one to three students—hardly a policy than can be implemented statewide.[10] Thus, while achievement in other states that spend more than California is, on average, a little above that in California, the difference is much less than the difference in school spending and class size.

DISTRIBUTIONAL PATTERNS OF EDUCATION REVENUES ACROSS SCHOOL DISTRICTS

California has accomplished a high level of equity in distributing its education revenues across school districts. Indeed, the predominant school finance issue in California during the 1970s was school finance equalization following the *Serrano v. Priest* court mandate to reduce *wealth-related* expenditure-per-pupil differences to within a $100 band of the statewide average expenditure per pupil.

Most states across the nation are still grappling with school finance inequities and are attempting through legislation to reduce overall spending-per-pupil disparities and to diminish the relationship between expenditures per pupil and local district property wealth per pupil. Recent court decisions in New Jersey, Texas, and Kentucky dramatize the renewed attention given to school finance equity. Indeed, the court in New Jersey has mandated that the per-pupil spending in New Jersey's poorest districts, which include nearly all the large city districts that enroll high numbers of low-income and minority students, be made equal to those in the wealthiest suburban districts. The Texas situation is still in flux. After the state supreme court unanimously overturned that state's school finance system and the legislature enacted a major reform in the summer of 1990, a lower district court decided in September 1990 that the reform was insufficient and gave the state one year to improve the plan. Also, the Kentucky Supreme Court ruled that not only was their state's finance system unconstitutional but that the entire Kentucky education system was unconstitutional—structure, governance, program, curriculum, and finance. The legislature has redesigned the system.

Since Proposition 13 was enacted in 1978, California has been less concerned with school finance inequities because, in response to this proposition that limited use of the property tax, California established a statutorily mandated per-pupil revenue level for all districts. Analytically, California has a full state funding school finance system under which the state determines a fixed spending level for all districts in the state, and finances it with a combination of state and local funds. The revenue limit differs among elementary, high school, and unified districts but is generally the same for all districts within each class of district.

The revenue limit, however, is not exactly the same for all districts within each class of district. Since the *Serrano* decision, the state has been gradually elevating all districts to the same spending level. The question is how equalized the California school finance system has become. Figure 8.7 presents data by district type to answer this question. Because a 1984 *Serrano* appeal court decision allowed the $100 expenditure band to be adjusted for inflation, the data show the percentage of students in districts with a base revenue limit that is within the inflation-adjusted $100 band above and below the state average.

In fact, data indicate that in 1990–91, the California school finance system is highly equitable—95.1 percent of all students in the state fall within this tough expenditure-per-pupil equalization standard, attending school districts that have a base revenue limit within a $268 band around the statewide average. And this percentage has been rising during the 1980s. While similar data are not available for other states, few states would match this degree of expenditure equalization.

A recent fifty-state study of expenditure-per-pupil dis-

FIGURE 8.7 **Percent of Students Within Inflation Adjusted $100 Band* of Base Revenue Limit by District Type**

District Type	1983–84	1984–85	1985–86	1986–87	1987–88	1988–89	1989–90	1990–91
Elementary More than 100 ADA	84.5%	92.2%	93.0%	94.0%	94.3%	91.8%	91.9%	92.4%
High School More than 300 ADA	80.3	86.8	87.1	89.1	89.4	89.2	90.4	90.2
Unified More than 1,500 ADA	94.5	97.0	97.0	97.1	97.2	96.9	96.7	96.7
All Districts	90.6%	94.7%	94.9%	95.4%	95.6%	94.9%	95.0%	95.1%

* Inflation-adjusted band: 1983–84 = $202; 1984–85 = $212; 1985–86 = $221; 1986–87 = $227; 1987–88 = $238; 1988–89 = $248; 1989–90 = $258; 1990–91 = $268

SOURCE: State Department of Education

parities also found that California ranks among the best in terms of a low level of disparities.[11] This study found that, for unified districts, expenditure-per-pupil disparities in California dropped between 1980 and 1987, with the coefficient of variation declining from 13.2 percent to 9.5 percent, respectively. Moreover, in 1987, only six states (including Hawaii which has a statewide education system) had a lower coefficient of variation. Thus, California ranked among the top seven states in the nation on expenditure-per-pupil equality.

Whatever the progress in providing equalization for the base revenue limit, California's school finance structure is unusually complicated. The base revenue limit alone does not determine total revenues per pupil. Indeed, the base revenue limit accounts for barely two-thirds of total revenues. The base revenue limit is subject to literally hundreds of adjustments, including adjustments for district type, school size, enrollment declines and enrollment growth, small district transportation, meals for needy students, equalization adjustments, longer days and year incentives, minimum beginning teacher salary incentives, tenth grade counseling incentives, and so on. Further, one-time per-pupil grants were enacted for 1988–89 and 1989–90. In short, the base revenue limit is modified by multiple adjustments.

California has nearly 70 additional categorical programs, each with a different funding formula. Most of these formulas are also complex. For example, many categorical programs provide an amount of funds equal to that received in 1978–79, with inflation and enrollment adjustments. But that means that if a district did not receive funds in that year, they did not receive them this year, even though they might now meet program eligibility requirements. Further, inflation or cost-of-living adjustments for most categorical programs are different from those for the revenue limit formula, and many such programs do not have any statutory cost-of-living adjustment.

Categorical funding was further complicated during the 1989 budget deliberations when the legislature created Supplemental Grants that are based on the level of both base funding and categorical funding. Districts below the statewide average in base revenues as well as below the statewide average in categorical revenues—even though these districts might rightly not qualify for categorical funds—receive the largest supplemental grants.

ALLOCATION AND USE OF DOLLARS

Former U.S. Secretary of Education William Bennett implied that too much money was used for administration, popularizing the term the "administrative blob." And a recent study of New York City implied that for every dollar that reached high school classrooms, two dollars were lost in four layers of "overhead."[12]

This section describes what is known currently about how California uses education dollars. While the knowledge base is incomplete, California knows more about this issue than most other states. Expenditures by object and function, then staffing patterns, and finally expenditures by program, school, student, and curriculum content area are discussed below, using both national and California data.

Expenditures by Function

The National Center for Educational Statistics (NCES) annually provides nationwide and individual state data on expenditures by function, but because definitions for functional categories differ across states, expenditures are reported for only a few very broad functional categories. Data for 1986–87 are presented in Figure 8.8. Only three functional categories are presented: instruction, support services (which include administration), and noninstructional expenditures. Nationally, 61.1 percent of all funds were spent for instruction, 35.4 percent for support, and 3.5 percent for noninstructionally related purposes.[13]

Individual state patterns differed, but not dramatically, from this pattern. Hawaii, for example, which funds public education almost entirely with state dollars, spent the same percentage—61.1—on instruction as the national average,

FIGURE 8.8 **Current Expenditures by Function for the United States and Selected States, 1986–87**

		Current Expenditures (millions)					
		Instruction		Support Services*		Non Instruction	
Selected States	Total	Amount	Percent	Amount	Percent	Amount	Percent
U.S. Average	$146.7	$89.6	61.1%	$51.9	35.4%	$5.1	3.5%
California	$16.5	$9.3	56.1%	$6.7	40.8%	$0.5	3.1%
Hawaii	0.58	0.35	61.1	0.19	33.6	0.03	5.3
Kentucky	1.6	1.2	73.2	0.35	22.0	0.08	4.8
New Hampshire	0.59	0.38	65.0	0.20	33.6	0.01	1.4
New Jersey	6.1	3.9	63.5	2.0	33.5	0.2	3.0
Tennessee	2.2	1.5	69.9	0.51	23.5	0.1	6.6
Texas	10.2	6.1	59.8	3.5	34.4	0.6	5.8
West Virginia	1.2	0.59	48.2	0.57	46.7	0.06	5.1

* Support services include: administration, operations and maintenance, transportation, and fixed charges.

SOURCE: NCES (1989), p. 154.

and a little less on support services. New Hampshire, which has the largest local role in funding public education, spent 65 percent on instruction, slightly above the national average. Kentucky spent the largest percentage on instruction—73.2 percent—while West Virginia spent the smallest percentage at 48.2 percent. California also spent below the national average at 56.1 percent on instruction.[14]

Moreover, as Figure 8.9 shows, these broad patterns of

FIGURE 8.9 Percent Distribution of National Expenditures by Function, 1920 to 1980

	Percentage Distribution						
	1920	1930	1940	1950	1960	1970	1980
Total expenditures, all schools	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Current expenditures, all schools	83.4	80.0	83.4	80.9	79.8	85.7	91.2
Public Elementary & Secondary Schools	83.1	79.6	82.8	80.3	79.0	84.1	90.6
Administration	3.5	3.4	3.9	3.8	3.4	3.9	4.4
Instruction	61.0	56.9	59.9	53.3	53.5	57.2	55.5
Plant operation*	11.2	9.3	8.3	7.3	6.9	6.2	*
Plant maintenance	2.9	3.4	3.1	3.7	2.7	2.4	10.2
Fixed charges	0.9	2.2	2.1	4.5	5.8	8.0	12.3
Other school services[1]	3.5	4.4	5.5	7.7	6.6	6.3	8.3
Summer Schools	(2)	(2)	(2)	(2)	0.1	0.3	(4)
Adult Education[2]	0.3	0.4	0.6	0.6	0.2	0.3	–
Community Colleges	(2)	(2)	(2)	(2)	0.2	0.3	–
Community Services	(1)	(1)	(1)	(1)	0.4	0.6	0.6
Capital outlay[3]	14.8	16.0	11.0	17.4	17.0	11.5	6.8
Interest on school debt	1.8	4.0	5.6	1.7	3.1	2.9	2.0

– Data not available

Note: Beginning in 1959–60, includes Alaska and Hawaii. Because of rounding, details may not sum to totals.

* In 1980, plant operation was combined with plant maintenance; thus, the combined figure for 1980 is shown in the plant operation column.

[1] Prior to 1959–60, items included under "other school services" were listed under "auxiliary services," a more comprehensive classification which also included community services.

[2] Prior to 1959–60, data shown for adult education represent combined expenditures for adult education, summer schools, and community colleges.

[3] Prior to 1969–70, excludes capital outlay by State and local schoolhousing authorities.

[4] Less than 0.05 percent.

SOURCE: NCES (1989), p. 151.

national expenditure have not changed much over the years. Using more functional categories, Figure 8.9 indicates that the percentage spent on instruction varied in the years between 1930 and 1980 from a low of 53.3 percent in 1950 to a high of 59.9 percent in 1940. (The 1980 figure was 55.5 percent.) Administration expenditures have increased about 1 percentage point since 1930. The largest percent increase has occurred in the fixed charges category, which usually includes employee benefits. These results suggest that there has not been a dramatic decline in the relative amount spent on instruction over the past fifty years, somewhat contrary to popular perception.

Even with these broad categories, several states define instruction, administration, and support differently, so these figures may not accurately reflect instruction and noninstruction expenditure patterns. Although NCES attempted to portray comparable data, California claims that the NCES adjustments make its instructional expenditures appear artificially low, and that several categories of expenditures included in the support/administrative category are really instructional.

California's standard functional categories (Figure 8.10) are different from those used by NCES, and not easily converted into the NCES categories. California's standard report does not separate district from site expenditures for administrators, other certified salaries, and support personnel. In fact, California's categories are more objects of expenditures than functions. Figure 8.10 shows patterns of expenditures over a four-year time period, and the figures suggest that the patterns have been remarkably stable. About 45 percent of expenditures are for teacher salaries. Only about 5.6 percent are for administrator salaries, which would include both site and central office administration. Employee benefits comprise just 15.5 percent, below the percentage in many other states. Instructional aides and other certified salaries constitute another 7.5 percent. Books and supplies consume only 4.3 percent of expenditures and operating expenses only 7.7 percent. While these data are useful, expenditures by program are more desirable. California is implementing a new program accounting fiscal structure, and program expenditure data should be available soon.

Staffing Patterns

Translating broad expenditures into staffing patterns is one next step in identifying how districts use dollars. Figure 8.11 presents national data on numbers and percent distribution of staff by several staffing categories for Fall 1987. Administra-

FIGURE 8.10 California School District General Fund Expenditures

	1988–89		1987–88	1986–87	1985–86
Category	Amount (Millions)	Percent	Percent	Percent	Percent
Total	$16,972.9	100.0%	100.0%	100.0%	100%
Teacher Salaries	7,603.9	44.8	45.2	44.6	45
Administrator Salaries	942.1	5.6	5.5	3.3	4
Other Certified Salaries	716.4	4.2	4.3	5.6	4
Instructional Aides	553.3	3.3	3.3	3.3	4
Other Support Personnel	2,121.8	12.5	12.5	13.5	13
Employee Benefits	2,624.1	15.5	15.2	15.1	15
Books and Supplies	726.7	4.3	4.2	4.4	4
Services and Operating Expenses	1,300.5	7.7	7.5	7.2	7
Capital Outlay	384.1	2.3	2.3	3.2	2

SOURCE: California State Department of Education

tors do not appear to represent a large portion of the total—district (central office) administrators totaled 1.7 percent and site administrators another 3.1 percent. Administrators comprised a total, then, of just 4.8 percent of all staff, which almost equals the percentage spent on administration in the national expenditure figures above.

Instructional staff represented 66.5 percent of total staff (63.4 percent if site administrators are excluded), which approximately equals the national percent spent on instruction. An interesting fact from Figure 8.11 is that 31.7 percent of staff are in non-instructional and non-administrative roles, such as secretaries, operation, maintenance, and transportation personnel. When policymakers and local taxpayers wonder why only roughly 60 percent of expenditures are spent on instruction, one answer is that operations, maintenance, transportation, and a small amount of district administration accounts for nearly one-third of public school expenditures. While expenditures in any category can be analyzed on efficiency criteria, the fact is that non-instructional expenditures are not primarily supporting an alleged "administrative blob."

The national figures are largely reflected in similar data for California, as shown in Figure 8.12. District and site administrators in California comprise a total of just 4.3 percent of total staff, slightly below the 4.8 percent national figure. Teachers, on the other hand, comprise 50 percent of total staff in California, while the national figure was higher at 52.8 percent. The California support staff figure totals 42 percent and includes instructional aides; when instructional aides are added to the national support staff figure, the total is 39.5 percent. In other words, in California and across the country, about 40 percent of all staff are non-certified non-teaching staff, including secretarial support, operational and maintenance staff, and transportation staff. Administrators comprise a small portion of the total, less than five percent in California and the nation as a whole.

These broad categories of education staff are at best indirect indicators of how school funds are spent, however. Figure 8.13 further disaggregates the figures and shows percentage distribution of secondary teachers by content area for 1981 and 1986, which can be used to determine whether national high school staffing patterns changed after 1983, the

FIGURE 8.11 Staff Employed in the Nation's Public Schools, 1987

	Number	Percent of Total
District Administrators	75,134	1.7%
Instructional Staff*	2,868,577	66.5
Support Staff	1,368,758	31.7
Grand Total	**4,312,469**	**99.9%**
*Composed of:		
Site Administrators	133,464	3.1
Teachers	2,278,813	52.8
Teacher Aides	337,061	7.8
Counselors	71,024	1.6
Librarians	48,215	1.1

Note: Total may not add due to rounding.

SOURCE: NCES (1989), p. 84.

FIGURE 8.12 Staff Employed in California's Public Schools, 1990

	Number	Number per 1,000 Students	Percent of Total
District and Site Administrators	17,873	3.8	4.3%
Teachers	207,277	43.4	50.0%
Other Certified Staff	14,889	3.1	3.4%
Support Staff	174,224	36.5	31.0%
Total	414,263	86.8	100.0%

SOURCE: California Department of Education, Program Evaluation and Research Division, Educational Demographics Unit, October 1990.

FIGURE 8.13 Secondary Teachers in Nation by Content Area, 1981 and 1986

	Percent of Total	
Subject	1981	1986
Agriculture	1.1%	.06%
Art	3.1	1.5
Business Education	6.2	6.5
English	23.8	21.8
Foreign Language	2.8	3.7
Health/PE	6.5	5.6
Home Economics	3.6	2.6
Industrial Arts	5.2	2.2
Mathematics	15.3	19.2
Music	3.7	4.8
Science	12.1	11.0
Social Studies	11.2	13.6
Special Education	2.1	3.5
Other	3.3	3.4
Total	995,000	970,000

SOURCE: NCES (1989), p. 73.

beginning of education reform.[15] These figures suggest patterns of financial commitment by content area, important information in an era when student performance in the core academic content areas has been elevated to a national goal. In 1981, 65.2 percent of secondary teachers were in the core academic areas of English, mathematics, science, social studies, and foreign language. That percent increased to 69.3 percent in 1986. One objective of the 1983 era of educational reform[16] was to increase teaching of core academic subjects; these staffing shifts are in line with that goal.

Staffing changes for individual subject areas were even more dramatic. Mathematics teachers rose from 15.3 percent to 19.2 percent, an increase of nearly one-third. Social studies teachers increased from 11.2 to 13.6 percent, hopefully teaching more American history, world history, and geography. And foreign language teachers increased from 2.8 to 3.7 percent, a rise of about one-third. Unfortunately, science teachers dropped from 12.1 to 11 percent, and English teachers dropped from 23.8 to 21.8 percent of the total.[17]

The increase in the academic areas came with a loss in other areas. The percentage of teachers in agriculture, art, home economics, and industrial arts all fell, industrial arts by more than 50 percent. These numbers suggest that academics "won" and vocational education "lost" in the years after 1983. While not definitive, the numbers indicate that resource changes moved in line with reform expectations. Unfortunately, similar staff data are not available for elementary and middle schools.

Again the California data are similar to the national figures, as shown in Figure 8.14. First, 68.4 percent of California secondary teachers were in the core academic areas of English, foreign language, mathematics, science, and social studies in 1990. Second, the California figures for each of these academic areas are similar to the national figures, except that California has a smaller percentage of mathematics teachers. Finally, vocational education teachers in California (a combination of agriculture, business education, home economics, and industrial arts) totaled 12.9 percent, somewhat

FIGURE 8.14 California Secondary Teachers by Content Area, 1990

Subject	Number	Percent of Total
Art, Dance, Drama, and Music	$ 3,032	6.9%
English	9,348	21.1
Foreign Language	3,002	6.8
Mathematics and Computer	6,692	15.1
Physical Education and Health	5,231	11.8
Science	4,813	10.9
Social Studies	6,436	14.5
Vocational Education	5,704	12.9
Total	$ 44,258	100.0%

SOURCE: California State Department of Education, Program Evaluation and Research Division, Educational Demographics Unit, CBEDS Data, October 1990.

above the national total of 11.36. In general, though, the distribution of secondary teachers by content area in California and the nation is approximately the same.

Expenditures by School and Classroom

Two major studies on expenditures by school and classroom form the current information base on how funds are used below the district level. Figure 8.15 presents 1985–86 California expenditures on a *school* basis. The numbers represent a statewide average for all schools, thus merging data for elementary, middle, and high schools for which expenditure patterns undoubtedly differ. Nevertheless, it was one of the first studies to provide information on school-level expenditures. The figures show that 63 percent of all expenditures were spent directly on classroom services, much higher than the NCES figures above indicated. Fifty of the 63 percent was spent on classroom and specialized teachers. Instructional aides constituted a large portion of the balance, at 5 percent; pupil personnel support such as guidance counselors constituted another 4 percent; and books, supplies, and equipment comprised the remaining 4 percent.

If two-thirds of expenditures were on direct, classroom services, what constituted the other third? First, about 31 percent of the total was spent on other site-related items—site administration, site instructional support including curriculum support and staff development, and operations, maintenance, and transportation. Only 6 percent was spent on district, county, and state administration. Thus, 37 percent of

FIGURE 8.15 California Expenditures Per School, 1986–87

Category	Expenditure per School	Percent of Total
A. Classroom Expenditure		
22.0 Classroom Teachers	$ 914,000	45%
2.5 Specialized Instructors	102,000	5
7.0 Instructional Aides	94,000	5
2.0 Pupil Personnel Support	84,000	4
Books, Supplies, Equipment	92,000	4
Total Classroom Expenditure	$ 1,286,000	63
B. Other Site Expenditures		
Operation, Maintenance, Transportation	$ 395,000	19
Instructional Support	95,000	5
School Site Leadership	139,000	7
Total Other Site Expenditures	$ 629,000	31
C. District/County Administration	$ 120,000	5.5
D. State Department of Education	$ 11,000	0.5
Total Operating Expenditures	**$ 2,046,000**	**100.0%**
School Facilities/Capital	$ 133,000	

SOURCE: State Department of Education

California 1986–87 *school site* expenditures were spent on non-classroom activities. Hayward[18] shows that for many of these expenditures, the amount spent per item (such as per meal served, per student transported, per square foot of physical plant, etc.) was below the norm in the private sector, suggesting that school system expenditures were not profligate.

National data on *classroom* expenditures generally confirm these California sub-district school expenditure patterns. Figure 8.16 displays nationwide classroom expenditures for

FIGURE 8.16. Nationwide Expenditures per Classroom, 1984–85

Item of Expenditure	Amount	Percent of Total
Nonsite Administration		
District and State Administrators	$ 3,058	3.9%
Clerks (District & Site)	2,588	3.3
Total	**5,646**	**7.2**
Site Administration		
Principals	1,647	2.1
Assistant Principals	706	0.9
Total	**2,353**	**3.0**
Instruction		
Teachers	23,546	30.0
Curriculum Specialists & Other Classroom Teachers	8,336	10.6
Other Professional Staff	1,490	1.9
Teacher Aids	1,804	2.3
Library Media Specialists	549	0.7
Guidance and Counseling	1,176	1.5
Instructional Materials	6,430	8.2
Pupil Support Services, Attendance, Health	470	0.6
Total	**43,801**	**55.8**
Other Non-Administration & Instruction		
Maintenance	8,783	11.2
Transportation	3,451	4.4
Food Service	3,137	4.0
Fixed Charges (Insurance, benefits, etc.)	10,665	13.6
Total	**26,036**	**33.2**
Miscellaneous	586	0.8
Grand Total	**$ 78,422**	**100.0%**

SOURCE: Fox, 1987.

1984–85.[19] These numbers also reflect merged elementary, middle, and high school classrooms. The figures show that "other expenditures" including transportation, operation and maintenance, food services, and fixed charges constituted about one-third (33.2%) of total expenditures. Non-site administration constituted another 7.2 percent.

Instruction and site administration comprised 58.8 percent of total expenditures, with classroom teachers and other specialist teachers comprising 40.6 percent. Indeed, these national data show that the percent of expenditures spent on teachers nationwide were lower than in California and that the percent spent on instruction and site administration expenditures were also somewhat below that spent in California.

Expenditures by Student

The most comprehensive information available on expenditures by type of student is that for special needs students. Data on special education expenditures do not derive from routinely collected fiscal data, but from periodically conducted special studies.[20] There is less comprehensive and valid data on expenditures for compensatory, bilingual, and vocational education.

While expenditure data are not normally tracked by student type, Ginsberg et al. (1981) conducted a study of inter- and intra-district resource allocation among low income and minority students on a school basis, with 1976–77 New York data. Their findings are interesting because a common prediction is that expenditures would be lower in schools with higher concentrations of poor and minority students. What these authors found was that the needier schools—those with higher concentrations of minorities, poor and low-achieving students—tended to have greater than average expenditures. While individual teachers in these schools on average had less education and experience and thus lower salaries, there were both more teachers and more paraprofessional teacher aides. The study concluded that quantity offset quality difference, with the result that the more needy schools had the higher educational expenditures. Thus, surprisingly, total resource distribution patterns using local, state, and federal funds actually favored low-income and minority schools.

These findings are important. A 1990 suit in Los Angeles alleged that district resource distribution patterns discriminated against schools with concentrations of low income, ethnic and language minority students largely because teachers in these schools had less education and experience and thus lower salaries. If the New York findings hold for California and Los Angeles as well, which have a greater number of categorical programs specifically targeted on low-income, minority, and limited-English-proficient students, the results could show that total resources per pupil in these schools are above the average and exceed those in higher income and less minority schools.[21]

FUTURE REVENUE NEEDS FOR CALIFORNIA'S PUBLIC SCHOOLS

What are the future revenue needs of schools? Figure 8.17 presents revenue requirements needed to maintain the K–12 public school system at a fiscally even level during the next ten years. The data show dollars needed to cover enrollment growth and inflation for each school year until the year 2000. Assuming enrollment growth of approximately 4 percent a year and inflation of 5 percent, public school revenues will need to increase 9 percent each year simply to keep the system even financially—a hefty annual percentage increase. In dollar terms, the figure shows that, on average, about $3 billion will be needed each year during the 1990s to cover student increases and inflation. Over this ten-year time period, the total public school budget will need to increase by $27 billion, or 108 percent relative to the 1990–91 total of $24.9 billion!

These revenue requirements are in the range likely to be appropriated for education, according to a recent PACE econometric analysis by Jack Osman of state and education revenue increases.[22] Using other projections about the course of the California economy, state and local public sector revenue growth, and historic trends in education funding, Osman produced a low and high elasticity projection for the K–12 education revenues. Osman's projections are slightly above those in Figure 8.17 which suggests that while the politics may be tough, the level of needed revenues likely will be provided. Indeed, Osman's low elasticity projections produce revenue levels slightly above those in Figure 8.17.

Figure 8.17 Projections of California K–12 Education Revenue Requirements, 1990–91 Through 1999–2000

Year	Increase in Student (ADA) Population	Increase for Student Growth (millions)	Total Increase for Inflation (millions)	Total Increase from Previous Year (millions)	Cumulative Increase Over 1990–91 Budget (millions)	Percent 1990–91 Budget of $24.9 Billion
1990–91						
1991–92	214,282	$ 1,066.7	$ 1,228.0	$ 2,294.5	$ 2,294.5	9.2%
1992–93	228,020	1,188.2	1,281.2	2,469.4	4,793.9	19.1
1993–94	248,831	1,349.7	1,210.6	2,560.3	7,324.4	29.4
1994–95	244,124	1,379.3	1,340.9	2,720.2	10,044.4	40.3
1995–96	242,180	1,425.2	1,454.0	2,879.2	12,923.6	51.8
1996–97	244,510	1,502.5	1,675.9	3,178.4	16,102.0	64.6
1997–98	234,882	1,512.2	1,956.2	3,468.4	19,570.4	78.5
1998–99	204,692	1,383.7	2,219.5	3,603.2	23,173.6	92.9
1999–2000	181,820	1,292.4	2,481.0	3,773.4	26,947.0	108.1

SOURCE: PACE analysis from Legislative Analyst Data, Commission on State Finance, *Annual Long-Term General Fund Forecast, Winter, 1989–90*, and Enrollment projections from the Department of Finance (see Chapter 3).

While Osman's projections are based, in part, on historical trends in education funding and future trends could be different (indeed, his projections were made before the depth of the 1991 recession and state revenue shortfall became known), his research nevertheless provides some optimism that K–12 education will receive the revenue totals depicted in Figure 8.17. Indeed, Osman produced a similar report for PACE in 1985,[23] and for nearly all cases the actual revenues provided fell between his low and high revenue estimates.

The numbers used in Figure 8.17 are based on Department of Finance enrollment and inflation projections (which produce larger numbers than those from the Commission on State Finance). While the differences between the enrollment projections of these two agencies are not dramatic for the first few years of the 1990s, they diverge by eighty to ninety thousand students towards the end of the decade, a large difference and one that substantially changes future cost estimates. A technical reason for the different estimates is that the Department of Finance's data have larger immigration adjustments; since enrollment projects were consistently below actual totals during the 1980s, primarily because of larger than anticipated immigration, the Department increased the immigration adjustment. Since there is no perfect crystal ball for the future, projections of estimated revenue requirements for public schools depend largely on estimates of enrollment changes and inflation. Currently, the Department of Finance's enrollment projections are acknowledged to be the most accurate.

Whatever the precise number, it is clear from the projections that a large number of new dollars are needed, and it is clear from the Osman analyses that the state historically provides a total exceeding that number just to stay even. In short, California's public schools likely will receive big dollar increases during the 1990s.

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[1] "Nominal" refers to current dollars. "Real" refers to the spending power or inflation-adjusted dollars.

[2] There is one set of circumstances under which ADA counts can exceed enrollments. For some purposes, students can be counted more than once. For example, if a student is concurrently enrolled in a public secondary school and an Adult Education or Regional Occupation Center or program, or attends summer school, ADA for financial reimbursements

might exceed actual enrollments.

[3] Steve Gold, "Earmarking Revenues for Education," paper presented at the annual meeting of the American Education Finance Association, Las Vega, Nevada, March 1990.

[4] Steve Gold, *State and Local Fiscal Relations in the Early 1980s*, Denver, CO: National Conference of State Legislatures, 1983.

[5] Because California includes excused absences in its average daily attendance (ADA) figures and most other states do not, the chart somewhat understates California's per pupil expenditures and overstates the national average. But adjustments would change California's figure by only 3–5 percent, leaving the pattern in Figure 8.6 the same.

[6] The National Education Association that produces these data, however, already has made several adjustments to make the data as comparable as possible.

[7] Cost-of-living adjustments are taken from Nelson (1989).

[8] See James Ferris and Donald Winkler, (1986), "Teacher Compensation and the Supply of Teachers," *Elementary School Journal*, 86(4), 389–404; see also Eric Hanushek (1989), "The Impact of Differential Expenditures on Student Performance," *Educational Researcher*, 18(4), 45–52

[9] See Eric Hanushek, op. cit.; see also Richard Murnane (1983), "Quantitative Studies of Effective Schools: What Have We Learned?" in Allan Odden and L. Dean Webb (eds.), School Finance and School Improvement: Linkages for the 1980s (Cambridge, MA: Ballinger).

[10] See Allan Odden(1990), "Class Size and Student Achievement: Research-Based Policy Alternatives," *Educational Evaluation and Policy Analysis*, 12(2), 213–227; see also Tommy Tomlinson, (1989), "Class Size and Public Policy: Politics and Panaceas," *Educational Policy* 3(3), 261–273, and Robert Slavin (1989), "Achievement Effects of Substantial Reductions in Class Size," in Robert E. Slavin (ed.), *School and Classroom Organization* (Hillsdale, NJ: Erlbaum).

[11] See James Wyckoff (forthcoming, "The Intrastate Equality of Public Primary and Secondary Education Resources in the U.S., 1980–87," *Economics of Education Review*, forthcoming.

[12] See Robert Sarrel and Bruce S. Cooper (1990), "Managing for School Efficiency and Effectiveness: It Can Even be Done in New York City," *Administrator's Notebook*, forthcoming.

[13] These figures are similar to unpublished data from the Educational Research Service which show, according to Kirst (1988), that 66.1 percent was spent on instruction in 1986–87. Again, percentage differences could be caused by definitional differences.

[14] Preliminary tabulations from unpublished NCES data which have attempted to "crosswalk" all 1988–89 state functional data into categories with common definitions put California's instructional expenditures at 59 percent compared to the national average of 62 percent. California's classroom support expenditures, by contrast, were about 15 percent compared to the national average of 10 percent.

[15] Interestingly, secondary teachers comprise about 43 percent of all teachers, a higher percentage than represented by secondary students, further evidence that the country spends more on high school than on elementary school students.

[16] See Joseph Murphy (1990), *The Educational Reform Movement of the 1980s: Perspectives and Case* (Berkeley, CA: McCutchan).

[17] In some states, this pattern for English teachers masked important changes within English. Often, the number of elective and remedial teachers dropped and the number of individuals teaching English 1, 2, 3, and 4 (academic English) rose.

[18] See Gerald C. Hayward(1988), "The Two Million Dollar School" (Berkeley: University of California, School of Education, Policy Analysis for California Education).

[19] Fox, James (1987). "An Analysis of Classroom Spending," *Planning and Changing*, 18(3), 154–162.

[20] See Allan Odden and Lawrence O. Picus (forthcoming), *School Finance: A Policy Perspective* (New York: McGraw Hill).

[21] Indeed, exactly these findings were produced in a study of mid-1970s resource allocation in Los Angeles. Choy and Gifford (1980) found that while expenditures per pupil from regular funds were about 10 percent lower in primarily black and Hispanic schools, they found that expenditures per pupil from all funds, including special needs categorical funds, was 17 percent higher in black and Hispanic schools. The reason for the spending differences was that black and Hispanic

schools had newer teachers with less experience and less education, and thus lower average salaries. But their findings generally paralleled those of Ginsberg et al. that categorical program dollars more than compensated for the small lower expenditures from regular funds.

[22] See Jack W. Osman (1990), "Revenue and Expenditure Projections: California K-12 Education, 1991-1995" (Berkeley, CA: University of California, Policy Analysis for California Education).

[23] See Jack W. Osman (1985), "Revenue and Expenditure Projections: California K-12 Education, 1985-86 Through 1989-90" (Berkeley, CA: University of California, Policy Analysis for California Education).

Chapter 9

The Public Speaks

This chapter reports the results of a PACE survey of California public opinion regarding education and education policy issues. The poll was conducted by J. D. Franz Associates of Sacramento, California, a public opinion polling firm experienced in education, government, and policy matters. The poll was based on a sample of 1,139 California households and the results are held to accurately reflect statewide public opinion, with a possible error margin of ±2 percent. The poll was conducted during January of 1991. The results are as follows.

THE IMPORTANCE OF EDUCATION

Among five major public policy areas offered as alternatives, education was selected as being the most important by the largest percentage of survey respondents. Crime and violence placed a fairly close second, while the environment, health care, and transportation lagged distantly behind.

Education's mean importance rating on a scale of one (least important) to five (most important) was 3.68, with crime and violence receiving a mean rating of 3.49. In contrast, transportation, an issue of sufficient concern to have generated three successful ballot propositions earlier in 1990, achieved a mean rating of only 1.83. Full data on the relative importance of the five policy issue areas encompassed by the survey are presented in Figure 9.1.

MOST SIGNIFICANT PROBLEMS WITH WHICH THE PUBLIC SCHOOLS MUST DEAL

When survey respondents were asked what they believed were the "biggest problems with which the schools in their

HIGHLIGHTS

- Asked to select the most pressing public policy area from among education, crime, the environment, health care, and transportation, the largest number of survey respondents (32%) chose education as the issue of greatest concern.
- Lack of proper financial support ranked as the most significant problem facing schools.
- California's taxpayer revolt is not dead. Less than a third of survey respondents said they would vote to raise taxes for schools, and less than a fourth said they would vote to raise property taxes.
- Poor curriculum was rated a more serious problem than drugs and discipline.
- The largest number of survey respondents gave schools in their own community, and in the state as a whole, a grade of "C."
- Nearly a third of Californians (30%) believe schools have gotten worse in the last five years.
- More than half of those surveyed (54%) believe teachers' salaries are too low.
- Half of Californians believe elementary students are not required to work sufficiently hard; nearly two-thirds (64%) believe high school students do not work hard enough in school.

FIGURE 9.1 Importance of Five Public Policy Issue Areas

	Rank of Importance						Standard
Issue Area	First	Second	Third	Fourth	Fifth	Mean	Deviation
Crime and Violence	29%	26%	18%	15%	11%	3.49	1.34
	(333)	(300)	(202)	(169)	(121)	(1125)	
The Environment	17%	18%	22%	25%	16%	2.95	1.34
	(198)	(204)	(248)	(288)	(182)	(1120)	
Health Care	17%	22%	23%	24%	13%	3.07	1.29
	(192)	(250)	(266)	(274)	(143)	(1125)	
Education	32%	26%	22%	13%	5%	3.68	1.20
	(369)	(293)	(254)	(149)	(57)	(1122)	
Transportation	3%	7%	13%	21%	54%	1.83	1.11
	(36)	(82)	(150)	(239)	(614)	(1121)	

Due to non-responses, totals may not sum to 100 percent

community must deal," the largest group said lack of proper financial support and the second largest group said poor curriculum or standards.

Because this question was adopted verbatim from the most recent Gallup poll of the public's attitudes toward public education,[1] the Gallup coding scheme also was used. Many of the codes are rather imprecise, yet their use does permit comparisons between California responses and national data.

Other answers to the "schools' biggest problems" question, given by ten percent or more of respondents, included large schools or overcrowding, use of drugs, difficulty in employing good teachers, lack of student discipline, mismanagement of funds or programs, and low teacher pay. Eleven percent of respondents simply replied that they did not know.

These data contrast substantially with those obtained by Gallup in the organization's 1990 poll (see Figure 9.2). The leading problems are much the same, yet their order and magnitudes are noticeably different. It would appear, at least in this instance, that Californians are somewhat more attuned to the issues identified by professionals than is the national mass public.

PROBLEMS IN EDUCATION

Respondents' assessments of the importance of various specific issues "some people feel are problems the state's public schools must deal with" are portrayed in Figure 9.3. Several facets of these data are worth noting.

First, more than half of the issues were found to be *very important* by a majority of respondents, and all were found to be *very important* by more than a third. When "very important" and "somewhat important" responses are combined, it could be said that the public finds all of these issues of concern.

Second, the public displays mixed reactions about school funding. Although a majority found that "lack of enough money to accommodate growth in school enrollments" was a very important issue, noticeably smaller percentages appeared to be seriously concerned about the schools' lack of control over the amount of funding they received or the manner in which available resources might be spent.

In a similar vein, "the fact that the state rather than local school districts sets policies the schools must follow" was the issue least likely to have been found of importance. Apparently, although the public understands that funding for enrollment growth is inadequate, it is less persuaded that funding in general is a problem. In addition, the post-Proposition 13 shift from predominantly local to primarily state funding and the accompanying trend toward state control appears either to have gone unnoticed or to be of minimal concern.

The public seems to believe that teachers are inadequately prepared and that students are not expected or required to work hard. More than three-quarters of respondents found the former issue to be of importance, while over four-fifths found the latter important.

FIGURE 9.2 Most Significant Problems with Which the Public Schools Must Deal: A Comparison of National and California Data

Problem	California Rank	California Percentage	National Rank	National Percentage
Lack of Proper Financial Support	1 (242)	21%	3	13%
Poor Curriculum/Poor Standards	2 (224)	20	4	8
Large Schools/Overcrowding	3 (217)	19	5	7
Use of Drugs	4 (174)	15	1	38
Difficulty Getting Good Teachers	5 (157)	14	6	7
Lack of Discipline	6 (125)	11	2	19
Mismanagement of Funds/Programs	7 (121)	11	20	2
Low Teacher Pay	8 (115)	10	8	6

Finally, the issue most likely to be found very important was "the presence of drugs and violence in the schools."

FIGURE 9.3 Importance of Various Issues with Which the Public Schools Must Deal

Issue	Very Important	Somewhat Important	Not Very Important	Not at All Important	No Opinion
Lack of enough money to accommodate growth in school enrollments	55% (624)	28% (317)	7% (81)	6% (63)	5% (54)
Lack of control over how much money the schools receive	46% (520)	31% (355)	7% (80)	4% (49)	12% (135)
Lack of control over how the schools can spend the money they get	41% (464)	35% (393)	9% (102)	5% (58)	11% (122)
The fact that the state rather than local school districts sets policies the schools must follow	37% (418)	34% (387)	11% (130)	10% (110)	8% (94)
Inadequate training and retraining of teachers	55% (624)	22% (248)	8% (94)	10% (109)	6% (64)
Only minimal demands on students, who aren't required to work hard enough	60% (682)	23% (264)	7% (84)	4% (47)	6% (63)
The presence of drugs and violence in the schools	85% (962)	11% (127)	2% (19)	1% (14)	2% (17)

Due to rounding, totals may not sum to 100 percent.

GRADING THE SCHOOLS

On a scale of one to five, with one representing an F grade and five representing an A grade, respondents gave their community's public schools a grade slightly better than a C. They were even less favorably disposed toward "the public schools in the state as a whole," awarding them a mean grade of 2.90, or roughly a C-.

National data from the Gallup Poll were similar, as shown in Figure 9.4. Nationally, the most prevalent response was a grade of C, and in California as well, reactions to local schools were more positive than were assessments of schools statewide.

CHANGES IN THE PUBLIC SCHOOLS

Survey respondents were almost evenly divided about whether public schools had become worse or remained about the same over the past five years, and they were much less likely to believe schools had improved. Nationally, Gallup Poll respondents were more complimentary than were California respondents about changes in their local schools, as shown in Figure 9.5.[2] Here again it is noteworthy that the national sample was either more willing or more able to take a stand; approximately a quarter of the California sample expressed no opinion, versus 12 percent of the national sample.

TAXES FOR THE PUBLIC SCHOOLS

According to these survey results, the California tax revolt is far from over. Only a little more than a third of respondents would vote to raise taxes if "the local public schools said they needed more money," and less than a quarter would vote to raise property taxes for this purpose.

Registered voters were slightly more likely to be willing to vote to raise taxes, but respondents who actually voted in the November 1990 general election were no more likely to support a school tax proposal than were those who failed to turn out. Moreover, the difference between those registered and those not registered was insufficient to have an electoral impact; even among the more willing registered voters, less than half would vote to raise taxes for the public schools.

No statistically significant differences emerged when those registered and those not registered to vote were compared with respect to whether or not they would raise property taxes for schools. Those who voted in November 1990, however, were even more likely than those who failed to vote to oppose additional property taxes for public education.

Finally, it is worth noting that those who voted for Proposition 146 (the school bond measure) in November 1990 were substantially more likely than those who voted to oppose the measure to be willing to vote for additional public school taxes, as shown in Figure 9.6.

FIGURE 9.4 Grading the Public Schools: A Comparison of National and California Data

Schools in This Community				Schools Statewide / Schools Nationally			
Grade	% California		% Nation	Grade	% California		% Nation
A	6%	(64)	8%	A	1%	(12)	2%
B	27	(303)	33	B	14	(157)	19
C	35	(396)	34	C	44	(502)	49
D	12	(139)	12	D	15	(173)	16
F	5	(59)	5	F	4	(50	4
Don't know	15	(177)	8	Don't know	21	(244)	10
TOTALS	100%	(1138)	100%		100%	(1138)	100%

Apparently, these voters' positive inclinations toward school funding extend beyond bond measures to actual tax increases, although not to increases in property taxes. Proposition 13 sentiments with respect to property taxation seem to live on.

FIGURE 9.5 Changes in the Public Schools Over the Past Five Years

	Public Schools in This Community	
Response	California	Nation
Improved	19% (218)	22%
Stayed About the Same	29 (332)	36
Gotten Worse	30 (336)	30
No Opinion	22 (252)	12
TOTALS	100% (1138)	100%

	Schools in the State as a Whole	
Response	California	Nation
Improved	13% (146)	–
Stayed About the Same	28 (319)	–
Gotten Worse	30 (342)	–
No Opinion	29 (331)	–
TOTALS	100% (1138)	–

Figure 9.6 Willingness to Vote for School Taxes by Vote on Proposition 146

	Yes on Taxes	Yes on Property Taxes
Voted Yes on 146	67% (168)	46% (115)
Voted No on 146	14% (20)	10% (16)

PROPOSITION 98

A plurality of respondents (44 percent) believed that Proposition 98 "gives just about the right amount of the state's budget to the public schools," while the second largest group (23 percent) believed that the proposition gives too little of the budget to education. Only eleven percent reported that Proposition 98 allocates too much to the schools, although it should be noted that 23 percent had no opinion on the matter.

A strong majority of respondents (60 percent) agreed with the supporters of Proposition 98 that "it is necessary to make sure the public schools get the money they need," while less than a fifth (18 percent) agreed with opponents that the proposition "is unnecessary because the governor and the legislature should decide how much money the schools need." Again, however, more than a fifth (22 percent) had no opinion on the proposition's propriety.

TEACHER COMPENSATION

A majority of respondents reported that teacher salaries in their communities were too low, although opinion was quite divided with respect to whether salary increases would improve the quality of education. Responses to both of these questions were quite similar to Gallup Poll findings, as Figures 9.7 and 9.8 indicate.

The PACE California survey also asked respondents what they thought the starting salary for a public school teacher was, as well as what they thought it ought be.

Having been told that the average starting salary for a

FIGURE 9.7 Level of Teacher Salaries: Comparison of California and National Data

Level	California	Nation
Too High	4% (43)	5%
Too Low	54 (612)	50
Just About Right	25 (285)	31
Don't Know / Undecided /Haven't Thought Much	17 (199)	14
TOTALS	100% (1139)	100%

FIGURE 9.8 Extent to Which Raising Teacher Salaries Would Improve the Quality of Education: Comparison of California and National Data

Response	California	Nation
A Great Deal	19% (220)	16%
A Fair Amount	35 (396)	35
Not Very Much	18 (208)	28
Almost Not at All	21 (244)	17
No Opinion /Haven't Thought Much	6 (71)	4
TOTALS	100% (1139)	100%

plumber in California is $21,000 a year, respondents were of the opinion that a public school teacher's salary should begin at $26,633 annually. The average difference between what salaries should be and what they are was $5,449. Only 5 percent of respondents indicated that teachers should be earning less than whatever they thought starting salaries actually were. In short, the California public believes that a school teacher makes about the same as a plumber to start and should be making about 25 percent more.

EXPECTATIONS OF STUDENTS

Perhaps predictably, given the fact that 60 percent of respondents found "only minimal demands on students, who aren't required to work hard enough" to be a very important issue, half believed that elementary school students are not required to work hard enough in school and on homework and 64 percent felt the same of high school students. Only three percent said elementary school students were being made to work too hard, and only two percent believed secondary school students were being made to work too hard.

SUMMARY

Education and the various issues currently confronting the public education system are important to Californians. Insofar as performance is concerned, however, schools have failed to meet citizens' expectations. Schools earn at best a grade of "C," the public believed they have generally not improved over the past five years, they suffer from inadequate teacher compensation, and they demand too little from their students.

Yet what the public's solutions might be remains unclear. Tax increases clearly are not the answer, as a majority of registered voters would not cast ballots in favor of increasing taxes. Proposition 98 achieved widespread support, and it is doubtful that any increase in education's claim on the state budget would be favorably viewed by the public.

[1] See Stanley M. Elam, "The 22nd Annual Gallup Poll of the Public's Attitudes Toward the Public Schools," Phi Delta Kappan, September 1990, pp. 41–55.

[2] The 1990 Gallup Poll did not inquire about changes in the nation's public schools, thus no comparisons can be drawn between the statewide data for California and a national response concerning schools in general.

Errata

The following changes are necessary in Chapter 7, "Student Assessment and Performance":

1. Chapter highlights should read:

Student Assessment and Performance

- California's Assessment Program (CAP) was a state-of-the-art system at the time it was initiated. Now, because of budget cuts, it has been eliminated. Its absence leaves a vast void in a comprehensive reform plan for the state.
- At all grade levels, and in all subjects tested by CAP, California's student scores are higher in 1990 than they were at the beginning of the reform movement in 1983. The average CAP score increase over this eight-year period has been 4.4 percent.
- Secondary grade scores (grades 8 and 12) have consistently improved each year.
- Grade 3 scores in math, science, and reading crested three years ago and have recently been declining. They are still higher in 1990 than in 1983.
- Grade 6 scores are mixed. Reading and written language declined slightly in the last two years. CAP 6th grade mathematics scores are the highest they have ever been since 1983.
- California's Scholastic Aptitude Test (SAT) scores are better, relative to the national average, in mathematics than in verbal skills. California's 1990 verbal scores were five points lower than the national average. In 1972, they were 11 points higher than the national average. California's 1990 SAT mathematics scores were eight points higher than the national average. In 1972, they were nine points higher.
- On SAT subject-matter tests, California secondary school students fall below national average scores in all areas except Spanish and Latin.
- The number of secondary students both taking and scoring at higher levels of the SAT has increased since 1983. In the high school class of 1989, 8.7 percent of students scored above 600 on the mathematics portion of the test. Only 6.5 percent of the class of 1984 scored at or above this level. On the verbal dimension, 3.3 percent of the 1989 class scored at or above 600. The equivalent figure in 1984 was only 2.5 percent.

2. The first section of the chapter, an overview of state and local testing, is based on:

San Diego Schools, Testing and Consolidated Application Department (n.d.), *Testing in San Diego: What, When, Why, and Where are the Results?*, San Diego: San Diego City Schools.

3. Footnotes 3, 4, 10, 16, 29, and 33:

These documents are authored by the California State Department of Education.

PACE apologizes for any inconvenience these errors may have caused.